



**9th Annual Conference of the  
EuroMed Academy of Business**

**Innovation, Entrepreneurship and Digital Ecosystems**

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Innovation, Entrepreneurship and Digital Ecosystems

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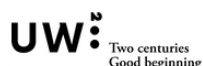


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# **9th EuroMed Conference of the EuroMed Academy of Business**

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## **Innovation, Entrepreneurship and Digital Ecosystems**

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## FOREWORD

The Annual Conference of the EuroMed Academy of Business aims to provide a unique international forum to facilitate the exchange of cutting-edge information through multidisciplinary presentations on examining and building new theory and business models for success through management innovation.

It is acknowledged that the conference has established itself as one of the major conferences of its kind in the EuroMed region, in terms of size, quality of content, and standing of attendees. Many of the papers presented contribute significantly to the business knowledge base.

The conference attracts hundreds of leading scholars from leading universities and principal executives and politicians from all over the world with the participation or intervention of Presidents, Prime Ministers, Ministers, Company CEOs, Presidents of Chambers, and other leading figures.

This year the conference attracted over 220 people from over 50 different countries. Academics, practitioners, researchers and Doctoral students throughout the world submitted original papers for conference presentation and for publication in this Book. All papers and abstracts were double blind reviewed. The result of these efforts produced empirical, conceptual and methodological papers and abstracts involving all functional areas of business.

## ACKNOWLEDGEMENT

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Special thanks go to the Conference Co-Chairs Dr. Katarzyna Śledziowska and Dr. Renata Gabryelczyk, the Conference Organising Committee, the DELab and the University of Warsaw, in Poland, for accomplishing an excellent job.

It is acknowledged that a successful conference could not be possible without the special co-operation and care of the Track Chairs and Reviewers for reviewing the many papers that were submitted to this conference. Special thanks to the Session Chairs and Paper Discussants for taking the extra time to make this conference a real success.

The last but not the least important acknowledgment goes to all those who submitted and presented their work at the conference. Their valuable research has highly contributed to the continuous success of the conference.

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# **BOOK OF CONFERENCE PROCEEDINGS**

## A NEW CONCEPTUAL MODEL FOR THE HOTEL INDUSTRY: SUSTAINABILITY VS OPEN INNOVATION

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### ABSTRACT

Scattered hotel is born as a solution to develop tourism in an innovative way and can be considered a project of valorization of a territory in a sustainable view, even if literature doesn't provide a measurement of its level of sustainability. At the same time, scattered hotel is designed to offer an authentic experience of the "Italian life style" and it has been rewarded by UNDP (United Nations Development Program) for its innovation. While innovation in the hotel industry has been largely debated in literature, the emerging topic of Open Innovation is unexplored in SMEs operating in hotel industry. This paper aims at (1) providing a measure for both the level of sustainability and the level of Open Innovation in scattered hotels (2) creating a matrix SHSI-SHOI able to map scattered hotels on the base of these dimensions in order to draw development strategies. Drivers of SHSI (Scattered Hotel Sustainability Index) and SHOI (Scattered Hotel Open innovation Index) are chosen by means of literature. The two indices are got throughout an adaptation of the SERVPERF questionnaire. Paper results in a mapping of scattered hotels that allows tourist operators to draw paths of development.

**Keywords:** *Open Innovation; Sustainability; Scattered Hotels; SMEs; Innovation in Tourism; SERVPERF Questionnaire; Measurement; Likert Scale; Conceptual Model.*

### INTRODUCTION

The paper contributes to the body of knowledge of two streams of research that are growing in popularity (Bramwell, 2015; Tejada and Moreno, 2013): sustainability and Open Innovation. These concepts are analyzed and contextualized in the accommodation sector, with a specific focus on small tourism enterprises. The positive links between sustainable tourism objectives and small tourism enterprises have been asserted by many authors (Horobin and Long, 1996; Revell and Rutherford, 2003; Vernon *et al.*, 2003). However, no literature exists about the possibility to develop tourism proposals in a more sustainable way by collaborating with external entities to obtain innovative

outcomes. Although Open Innovation approach (Chesbrough, 2003) states the opportunities related to opening up the organizational boundaries and to acquire ideas/knowledge by external actors, this approach has been accepted and implemented within large companies operating mainly in high-tech sectors (i.e., Spithoven *et al.* 2010; Giannopoulous *et al.*, 2011;). In this perspective, research is mainly focused on how large firms open their internal research and development department (R&D) and acquire knowledge by external sources for innovation (Chesbrough, 2003; Dahlander and Gann, 2010). Only few studies have investigated this phenomenon in SMEs (i.e., Brunswicker and Vanhaverbeke, 2014; Parida *et al.* 2012; Bianchi *et al.*, 2010; Lee *et al.* 2010; Van de Vrande *et al.*, 2009) and, also, scarcer are those focusing on SMEs operating in service sector (Mina *et al.*, 2014) and, especially, in hospitality industry (Souto, 2015). Therefore, there is clearly a need for more qualitative and/or quantitative studies to advance the understanding regarding the Open Innovation in this type of firms. To address these gaps in literature and to deepen the knowledge on the relationship between sustainability and Open Innovation within SMEs context, the paper proposes a theoretical model using an emerging form of “Small Medium Tourism Enterprise” named “Albergo Diffuso” (or scattered hotel in English), growing in popularity in the Italian hospitality industry. Scattered hotel offers authentic and complete experiences of the “Italian life style” (Paniccia and Valeri, 2010). The idea of this accommodation type is to sell a proposal characterized by the innovative combination of local tangible resources (i.e., environment, cultural heritage, agriculture and crafts) and distinctive intangible resources (i.e., knowledge, traditions, culture, social capital, etc.). Several research initiatives have been undertaken in Italy to analyze this type of accommodation (i.e: Paniccia and Valeri, 2010; Confalonieri, 2011; Silvestrelli, 2013), even if the concept remains under researched and it is largely unknown within the international context. In the scattered hotel the two aspects - sustainable tourism and innovation – seem to cohabit. In fact, it looks like a viable sustainable entrepreneurial innovation that increases a destination’s accommodation capacity in an inclusive and locally controlled manner. With this in mind, the paper aims at (1) providing a measure for both the level of sustainability and the level of open innovation (2) creating a matrix SHSI-SHOI able to map scattered hotels on the base of these dimensions in order to draw development strategies. Drivers of SHSI (Scattered Hotel Sustainability Index) and SHOI (Scattered Hotel Open innovation Index) are chosen by means of literature. The two indices are got throughout an adaptation of the SERVPERF questionnaire.

## LITERATURE REVIEW

### *About the concept and features of the scattered hotel*

In recent years, this typology of accommodation has caught the interest of tourists, professionals and institutions as a new form of “Small Tourism Enterprise” (STE). The “Albergo diffuso” began in

the hilltop towns of Italy and is based on the renovation of historic city centre buildings (often in poor condition or abandoned) into accommodation for tourists (Paniccia and Valeri, 2010). Small, locally owned tourism enterprises are viewed as one of the vehicles by which the economic, environmental and socio-cultural benefits of tourism can be spread. Several studies have been undertaken in Italy to analyze and gain an understanding about this type of accommodation (Paniccia *et al.*, 2010; Vallone *et al.*, 2013; Silvestrelli, 2013). However, the concept remains largely unknown within the international context. Scattered hotel is a type of accommodation often family-owned, small sized company utilizing traditional and local resources, culturally valuable surroundings and putting forward more a lifestyle rather than a staying as visitors or guests (Camillo and Presenza, 2015). It consists in a type of accommodation (and other hotel services) in the historical centre of a town or village with the scattered guest rooms, distributed or dispersed among several buildings within approximately 200 meters from the heart of the hotel. The Italian term Albergo Diffuso can be expressed in English as “horizontal hotel”, “multi-building hotel”, “integrated hotel”, “diffused hotel” or “scattered hotel”. The verb ‘diffuse’ means, broadly, ‘disperse’. From Latin diffuse - ‘poured out’, from the verb ‘diffundere’, from dis- ‘away’ + fundere ‘pour’. Within this context, it means “Spread out over a large area; not concentrated” (Oxford Dictionaries, 2014). Scattered hotel shows typical characteristics of a hotel, such as accommodation, assistance, catering, and common spaces and facilities for guests. However, it presents distinctive peculiarities that have been formalized in a set of guidelines elaborated by the Italian Association of Alberghi Diffusi. The term “diffuso” (diffused) denotes a structure that is horizontal, and not vertical like the one pertaining to standard hotels that are often not visually appealing. The reception, the rooms and the ancillary services are located in different buildings, although closed to each other. The facilities are housed in existing buildings after a careful process of restoration and conversion that must comply with the local laws and regulations. The intent is to give guests the direct contact with the local culture, and the experience of an authentic representation of resident life. The key requirements of a scattered hotel are: a) the presence of a living community (usually a small village, with a few hundred inhabitants); b) an owner operated management structure; c) an environment that is “authentic” made of fine homes, completely renovated and furnished; d) a reasonable distance between the guest rooms and common areas (usually no more than 300 meters); e) non-standard professional management, consistent with the proposal of authenticity of experience, and with roots in the community and region; and f) a recognizable style, an identity, a common feel that is identifiable throughout the facility buildings. Accordingly to Presenza *et al.* (2015), there are some first insights about this accommodation. The analysis of the profile of the customer highlights how foreign customers appreciate this accommodation very much; in fact, foreign demand is 46.4% of the total. Most of the customers are

represented by couples (54.8%), followed by families while seniors account for only 3.2%. Primary interests of the customers are the environment and nature, as well as the food and wine and the typical places. Considering 2012 as the reference year, it should be noted that the average stay is low (2.9 nights), while the average occupancy rate is 68%. In the scattered hotels employees are 4.7 on average and 75.8% of them are Italian. It is interesting to highlight that among the Italian staff, there is a prevalence of “territorial” personal (64.2%), i.e., employees who live in the vicinity of the structure. This means that is indeed possible to have a real contact with the residents, thanks to the staff who works there. The success of the initial entrepreneurs has led the development of other establishments and now they are about 100 (February, 2016) throughout Italy and other ones are under development ([www.alberghidiffusi.it](http://www.alberghidiffusi.it)). The growing of this type of accommodation remarks the significance of the socio-cultural embeddedness of lifestyle approach. In fact, “a growing number of small-firm owners elect to ‘stay within the fence’ in order to preserve both their quality of life in their socio-environmental contexts and their ‘niche’ market position catering for travelers similarly seeking out alternative paradigms and ideological values” (Ateljevic and Doorne, 2000, p. 388). The search to distance themselves from a suffocating market environment has provided a niche opportunity.

#### *Sustainable and innovative SMEs in tourism*

Among the plethora of destination stakeholders, a pivotal role is played by small tourism enterprises (STEs) (Jones and Tang, 2005), and among the various types of STEs, the accommodation/lodging businesses are key-players (Jaafar, 2011). Roberts and Tribe (2008, p. 575) underline that “the numerical dominance of STEs, their central role in human activities, and their increasing importance within the framework of sustainable tourism development, all suggest that these entities have the potential to help tourism destinations progress towards sustainability objectives”. In this context, small, locally owned tourism enterprises are viewed as one of the vehicles able to create economic and socio-cultural benefits for tourism and to achieve the goals of sustainable tourism. There is a common conviction that local ownership of STEs will encourage community stability, raise the level of participation in the local economy and decrease the level of residents’ antagonism directed towards tourists and the industry (Dahles, 1999; Shaw and Williams, 1998). Local STEs have better chances to satisfy the “third generation tourist”, also known as “post-fordist tourist” (Urry, 1995). It is a way that is more observant of the local environment and culture (Tung and Ritchie, 2011; Wanhill, 2000). Arguably, there is the assumption that small-scale, locally owned developments that are environmentally focused are unequivocally (Swarbrooke, 1999; Wheeler, 1993). There is still considerable interest in small-scale, environmentally sensitive and locally owned developments that allows the equitable flow of tourism’s benefits throughout the community (Dahles, 1999). Such sustainable tourism developments, feasible to be undertaken by local residents, “have generated a

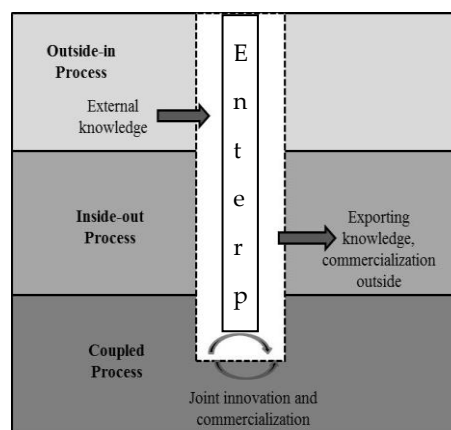
growing interest in encouraging micro businesses and small entrepreneurs” (Dahles, 1999, p. 2) to consider the benefits of sustainability based on key-concepts (i.e. centrality of the person, respect for the environment, the culture and the traditions, and preservation of the place’s authenticity). These concepts (or efforts) arose in response to the negative outcomes, ranging from environmental damage to impacts on society and standard cultures, associated with mass tourism and unrestrained tourism development (Krippendorf, 1987; Nash, 1992). In addition, to being plentiful within the tourism industry, smaller organizations are more aligned with sustainable development objectives because they tend to be locally; in this way they are able to create employment and economic benefits for tourism throughout the community (Dahles, 1999). This premise helps to reflect about this new form of accommodation - i.e. scattered Hotel - as a sustainable business: it stimulates social symbiosis in a place and recognizes and increases the value of cultural assets and traditions. This accommodation combines the use of local tangible and intangible resources, providing an interesting way to partially mitigate the socio-economic impact often linked to tourism development. The business concept of the scattered hotel is based on organic growth in a socially inclusive and locally controlled manner. Accordingly, the concept may mirror the characteristics and effects of “a bottom-up community based tourism initiative” (Zapata *et al.*, 2011).

#### ***Open innovation in SMEs and in hotel industry***

Open Innovation approach fosters firms to acquire ideas and knowledge of external entities in their innovation processes, underlined that firms that are ‘too focused internally’ are ‘prone to miss a number of opportunities because many will fall outside the organization’s current business or will need to be combined with external technologies to unlock their potential’ (Chesbrough, 2003). Therefore, the boundaries between firm and its environmental are more porous, permeable and embedded in networks of different external knowledge sources (i.e., suppliers, customers, research centers, universities, competitors, and other companies) collectively and individually working toward developing and commercializing knowledge (Chesbrough, 2003). There are three core processes in OI (see fig. 1): outside-in, inside-out and coupled process (Enkel *et al.*, 2009). In the outside-in process firms improve their own knowledge through the use of external knowledge, emphasizing the relevance of dense networks of innovation, the forms of integration of customers/suppliers/entities and the use of third parties that facilitate interactions among different sources. In the inside-out process companies are oriented to external exploitation of their internal knowledge by carrying out ideas to market, selling intellectual property rights (IPR), licensing mechanisms and bringing technologies to outside environment. This core process aims at allocating and commercializing externally ideas and technological innovation derived by their internal R&D activities. Finally, in the coupled process, that combines the out-side and inside-out, the concept of co-creation with

complementary partners is relevant; it defines forms of collaboration with subjects operating in different sectors and having different interests. These complementary partners offer *ad hoc* solutions that can improve the company's innovations or can exploit solutions developed by company (Enkel *et al.*, 2009). Several studies have proposed potential advantages of opening up the innovation processes (Gassmann 2006; Dahlander and Gann, 2010; Lee *et al.* 2010; Hossein, 2015): shorter time to market with less costs and risk associated with product development; increased quality of products and services; exploitation of new market opportunities; increased knowledge base within organization; improved flexibility, adapting knowledge base to shifting market needs; access and participation to large networks.

**Figure 1. The three core processes in OI Approach**



Source: *personal elaboration*

First studies on the adoption of Open Innovation in SMEs underline how these firms have increased their activity in Open Innovation (i.e., Brunswicker and Vanhaverbeke, 2014) with out-side processes. In this way they seem to acquire ideas, knowledge and competences from external actors, to activate forms of collaboration for developing innovation projects, to reduce the costs of development, to improve the product development process and to take advantages of a wider range of market opportunities (Laursen and Salter, 2006; van de Vrande *et al.*, 2009; Parida *et al.*, 2012; Brunswicker and Vanhaverbeke, 2014). In this perspective, Open Innovation is the suitable approach for many SMEs to take. However, it has effectively defined and implemented in firms operating within the technology sector and, then, in the service industry (Mina *et al.*, 2014). But, the OI in hospitality field is still not common (Artic, 2013) and also scarcely implemented, even if firms operating in this sector need to develop new products/services faster and more effectively; this allows them to overcome the difficulties that characterize SMEs, independently by the sector of activities, and that are mainly linked to their scarcity of internal resources and capabilities, their lack of resources for R&D activities, their less structured approach to innovation and their restricted multidisciplinary competence base

(Chesbrough and Crowther, 2006; Laursen and Salter, 2006; van de Vrande et al., 2009; Parida et al., 2012; Brunswicker and Vanhaverbeke, 2014). Only Talwar (2012), considering the hotel industry forecasts until 2020, assigns a leading role to open innovation approach, while Artic (2013) underlines that in Slovenia the concept of open innovation is not known in most hotel companies, but some of them perform the concept through business cooperation.

## METHODOLOGY

In recent years, the growing interest in innovation and sustainability in tourism has had an influence on the study of hotel industry. Despite the numerous attempts to define innovation and sustainability in this type of industry, there are not contributions concerning the analysis of these dimensions in a systemic way, in particular with regard to Open Innovation. For this reason, this theoretical paper aims at answering to the following research questions:

RQ1. How can we measure the level of sustainability and the level of Open Innovation in scattered hotels? RQ2. How can a scattered hotel be positioned on the base of these two dimensions?

The general goal consists in offering a descriptive and prescriptive framework in order to classify scattered hotels upon the basis of their level of sustainability and open innovation. This allows the creation of a matrix SHSI-SHOI able to map scattered hotels and draw development strategies. The methodology used consists of: (1) a systematic analysis of the drivers supported by literature with regard to sustainability and open innovation in the hotel industry and (2) the creation of a prescriptive model able to canvass all the aspects affecting these two dimensions and to provide them a suitable measure. The measurement model can be structured in terms of an adaptation of a SERVPERF questionnaire (Cronin and Taylor, 1992): (1) for the measurement of the level of sustainability of scattered hotels, consisting of three dimensions (environmental, social and economic dimensions) and 11 items; (2) for the measurement of level of Open Innovation, structured on three dimensions (In-side OI, Out-side OI and Coupled innovation process) and sixteen items. An adaptation of the SERVPERF questionnaire has been chosen because it allows to collect the level of agreement by interviews about several items describing the level of sustainability and open innovation in scattered hotels. In a first time, we selected, throughout a review of literature, the dimensions affecting sustainability and open innovation that constitute the main parts of the questionnaires. After this, we decided how to formulate the questions and their order on the base of an analysis of other questionnaires on similar topics. Measurement items of each questionnaire will be measured through a five-point Likert scale (1= strongly disagree to 5= strongly agree) (Table 1 and Table 2). In order to create the SHSI and the SHOI it is necessary to evaluate the SHSI and SHOI perceived by each single manager of Italian scattered hotel. This results in the average SHSI<sub>j</sub> and SHOI<sub>j</sub> of judgements provided by the same to the



11 items for the sustainability dimension and to the 16 items for the open innovation dimension.

**11**

$$(1a) SHSI_j = \sum_{i=1} (SHSI_{ij}) / 11$$

**i=1**

**16**

$$(1b) SHOI_j = \sum_{i=1} (SHOI_{ij}) / 16$$

**i=1**

Then, the average of the values of SHSI<sub>j</sub> and SHOI<sub>j</sub> registered for all the interviewees must be computed.

**n**

$$(2a) SHSI = \sum_{j=1} (SHSI_j) / n$$

**j=1**

**n**

$$(2b) SHOI = \sum_{j=1} (SHOI_j) / n$$

**j=1**

The statistical analysis of data will be carried out through SPSS. The model must be tested on a sample, asking respondents to express agreement or otherwise to the items for a specific dimension. The survey should be uploaded on a web platform and the link be sent to potential respondents. The reliability of the instrument and its dimensions requires to be tested by using Cronbach's Alpha, and appropriate convergent and discriminant validity tests must be undertaken to ensure the construct validity, stability and robustness of the measurement model. After these steps, we are able to cross the two dimensions (sustainability and open innovation in scattered hotels) and on the base of their values (low, medium, high) to classify them in different categories (Figure 1). On the base of their positioning in the matrix sustainability-open innovation it will be possible to draw different paths of development.

	1	2	3	4	5
	Compl. disagree	Disagree	Neither disagree nor agree	Agree	Compl. agree
Sustainability					
Environmental dimension					
Renewable energy is largely adopted in my scattered hotel (solar systems, eco-friendly chemicals and equipment)					
There is an increasing awareness in a smarter water use in my scattered hotel					
We are very careful to the recycling and waste management (composting and recycling)					
Social dimension					

We are careful to assume also employees with disabilities
In this scattered hotel we are careful to needs of tourists with disabilities
The respect of tourists towards employees is strongly incentivized
We involve customers into sustainable practices application encouraging them to actively participate and collaborate in sustainable practices
We are very careful to the needs of every stakeholder
Economic dimension
We privilege the hiring of local employees
We privilege to buy local food and materials or produce by ourselves food/materials
This accommodation establishment has a local ownership

**Table 1. Questionnaire for the measurement of the level of sustainability of scattered hotels**Source: *Personal elaboration.*

	1	2	3	4	5
OPEN INNOVATION	Compl. disagree	disagree	Neither disagree nor agree	Agree	Compl. agree
OUT-SIDE OI Process					
We use technologies developed by others to manage bookings/invoicing/orders/ employees selection					
We are careful to develop a CRM system through social networks					
We profit of R&D/ educational programs provided by external research and education centers					
We ask suggestions to improve services/solve problems throughout online collaboration platforms or social media (crowdsourcing)					
We general finance our business or business expansion through non traditional financing such as joint-ventures/alliances					
IN-Side OI Process					
We externalize technologies that other hotels/organizations are able to commercialize better					
We grant our licences/patents					

and/or know-how to create an adding incomes for the hotel
We are willing to sell results of our internal R&D, transforming programs of development in open source projects
Our smart people doesn't work for us so we must find and tap into the knowledge/expertise of bright individuals outside our company
We incentive internal innovation processes (that could be exported outside) in through multimedia channels, informal meetings, competition of ideas, etc.
Coupled OI process
We incentive the development of strategic partnerships with other hotels in order to get economic advantages
We try to make the best use of internal and external ideas
We use special cards that allow tourists to get different services
We develop strategic co-operations with other hotels in order to promote scattered hotels of our territory
We develop strategic co-operations with accommodations/tourist exercises to promote local products/services/information about local cultural heritage
We profit of external R&D to create value while internal R&D is needed to claim some portion of this value

**Table 2. Questionnaire for the measurement of the level of open innovation of scattered hotels**

Source: *Personal elaboration.*

## THE MATRIX SHSI-SHOI

Starting from the previous results it is very interesting to position scattered hotels on the base of their level of sustainability and open innovation that seem to cohabit. We cross the two dimensions, getting a nine-cell matrix. This allows to position scattered hotels on the base of the level (low, medium, high) they assume with regard to each single dimension. In such a way, these types of hotels could be classified in seven different “boxes” on the base of their position: (1) *Innovative distance runners*: these scattered hotels are those in the best position and they will be the benchmarks for other scattered

hotels; they show both a high level of sustainability and of Open Innovation. There is also an increasing belief that several potential drivers of innovation can impact on sustainable tourism (Ribaric, 2015), a continuous valorization of OI can create benefits to sustainability of the scattered hotel. (2) *Obsolete distance runners*: these scattered hotels are very careful to the aspect of sustainability but show a low level of innovation. Probably, they are focused on environmental, social and economic aspects of sustainability, but have a scarce propensity to innovate, undervalued the effect that innovation can have on sustainability (Schaltegger, 2011). An effort of investment in Open Innovation could push them toward the position of innovative distance runner. (3) *Marathon runners in training*: in this category there are all those scattered hotels that show a medium level in one dimension and a high level in the other one. They excel in innovation or in sustainability and are training them in order to reach the highest position in the other dimension. With a little effort in the less performing dimension they are able to reach the position of innovative distance runners. (4) *Hotels at work*: these scattered hotels show medium values for both the dimensions. For these hotels the game is open and it will depend on their ability to develop their innovation and their sustainability. (5) *Unsustainable open innovators*: these scattered hotels embrace the challenge of innovation but have a scarce interest to be sustainable. These are those hotels that don't consider sustainability as an important driver affecting competitiveness/attractiveness and invest their resources in order to use external sources of innovation within the firm, the external pathways for the purpose of developing and commercializing innovations (Chesbrough and Crowther, 2006) or for coupled innovation process. Given that innovation is important to ensure sustainable growth, a higher focus on sustainable innovation can results in the development or use of technologies allowing to save energy, to offer facilities to tourists with disabilities, etc. (6) *Out of training runners*: these scattered hotels are placed in a low position with regard to one dimension and in the middle position with regard to the other one. They are directed towards the position of unsustainable closed innovators and a recovery requires large investments in both the directions. (7) *Unsustainable closed innovators*: these are the scattered hotels in the worse position because they don't invest in innovation or in sustainability. This probably will affect negatively the level of their competitiveness because nowadays innovating and being sustainable are the imperative in order to remain competitive in an increasingly global environment.

	LEVEL OF OPEN INNOVATION (SHOI)			
LEVEL SUSTAINABILITY (SHSI)		LOW	MEDIUM	HIGH
	HIGH	Obsolete distance runners	Marathon runners in training	Innovative distance runners
	MEDIUM	Out of training runners	Men at work	Marathon runners in training
	LOW	Unsustainable closed innovators	Out of training runners	Unsustainable open innovators

Table 3. *The matrix SHSI-SHOI*

This matrix can constitute a framework for hotel operators, tourist organizations and managers in order to analyze the position of a particular scattered hotel and to draw suitable development strategies. This positioning is useful because allows managers of scattered hotel to know what dimension (sustainability or/and open innovation) must be valorized or supported or modified and in which way in order to develop this innovative type of accommodation.

## CONCLUSIONS

The aim of this paper consists in providing a measure for both the level of sustainability and the level of Open Innovation in scattered hotels and in creating a matrix SHSI-SHOI able to map scattered hotels on the base of these dimensions. First, results of our conceptual paper provide a substantial contribution to the development of an emergent research area on Open Innovation – that represents the sustainable approach for several SMEs to take (Chesbrough et al., 2006) - in the hospitality industry and also to the literature on sustainable tourism (Dahles, 1999), replying to the two research questions not usually linked and investigated. From theoretical point of view, this is realized through the creation of a specific matrix SHSI-SHOI that permits to classify effectively scattered hotels on the base of their different level of sustainability and Open Innovation, providing different “types of runners”. This framework represents an innovative view in the literature of scattered hotel, often lacking in strategic models of analysis created on the base of their needs and features. In the future it would be useful also to assess the correlation between the two variables in order to know how one can affect the other one. From a managerial point of view, we suggest the adoption of this matrix by tourism organizations and we propose to consider seriously their different position in order to define and develop strategies oriented to improve their open innovation activities and their commitment in sustainable initiatives. Despite the importance of these results for the literature about scattered hotels, this paper should be considered at the light of important limits: first it proposes only a conceptual framework, not tested through its application to a real case; second, it doesn’t validate the items used

through a Delphi methodology. Anyway, as this is a conceptual paper, a number of possible new future lines of research can be suggested, such, for example, the study of the level of sustainability and the level of Open Innovation considered in the framework in an empirical way, either by case studies (deep interviews of selected scattered hotels) or by quantitative analyses. Finally, in addition to the literature review, the suitability of different dimensions should be validated also by experts.

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## EFFECTS OF THE USE OF INTERNET AND ICT-S ON EXPORT PERFORMANCES OF THE EU

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### ABSTRACT

The paper aims to identify the impacts of digitization on the export performances of the European Union (EU). Based on the augmented gravity model, we estimate the regressions on panel data of export flows of the EU with the rest of the world over the time period 1999-2014, by employing Poisson pseudo-maximum-likelihood (PPML) estimator. Together with market and geography related variables, we control for the Internet usage and investments in ICTs in both reporter and partner countries. Our estimates highlight that use of Internet has boosting effects on export performances and investments in ICTs bring crucial contributions in utilizing comparative advantages of the countries in the sample.

**Keywords:** *international trade, Internet, ICT, gravity model.*

### INTRODUCTION

Started by the Internet expansion in the 1970s and the subsequent large-scale adoption of the World Wide Web in the 1990s, information revolution have drastically changed business models and gave the birth to the new economic players. On the one hand, the Internet yielded remarkable implications on economies involved, once allowing creation of the new markets characterized by a large scale, increased customization, rapid innovation and collection and usage of detailed consumer and market data. And on the other hand, digital tools have created the new economic players - the Internet platforms represented by, for instance, e-commerce, online media, job matching, financial trading or social networking. The latter provided the powerful tools to considerably decrease transaction and other costs related to creating and distributing certain types of products and services, acquiring information about these goods, or most remarkably collecting and using data on consumer preferences and behavior. Consequently, in our century, digitisation, information communications technology (ICT) and the Internet have become key drivers of global wealth creation and socio-cultural development.



While describing the above-mentioned economic trends, one may reasonably argue that the recent literature on economic growth should put the research focus on building the common comprehensive understanding of new economic mechanisms and the ways in which new technologies change economies involved. This paper is such an attempt to bring the new insights in the literature on international trade by examining the impact of internet and ICT technologies on export performances of the EU countries.

We employ the augmented gravity model to estimate regressions on panel data of the bilateral export flows of the EU countries with the rest of the world in 1999-2014. Together with the standard gravity variables, our model controls for the usage of the Internet and the investments in ICT. Following recent advancements in the empirical trade literature, we estimate the model by PPML (see Silva and Tenreyro, 2006). Estimation results find that use of Internet as well as investments in ICT significantly increase the exports from the EU.

The rest of the paper is organized as follows: section 2 provides theoretical framework for the analysis and reviews the literature, section 3 specifies model and describes the data followed by estimation results in section 4. Finally the last section concludes findings of the paper.

## LITERATURE REVIEW

The most popular methodology for empirical trade analysis is the theoretical framework of the gravity model introduced by the crucial work of Jan Tinbergen (1962) (see studies of Soloaga and Winters 2001, Ghosh and Yamarik 2004, Carrere 2006, Silva and Tenreyro 2006, Baier and Bergstrand 2009, Magee, 2008, Acharya et al. 2011). The model based on a law called the “gravity equation” by analogy with the Newtonian theory of gravitation reflects the relationship between the size of economies, the amount of their trade and the distance between the trade partners, in the following form:

$$X_{ij} = GS_j M_j \Phi_{ij}$$

where  $X_{ij}$  is the monetary value of exports from  $i$  to  $j$ ,  $M_j$  controls for all importer-specific factors that make up the total importer's demand and  $S_j$  comprises exporter-specific factors that represent the total amount exporters are willing to supply.  $G$  is an independent variable such as the level of world liberalization and  $\Phi_{ij}$  represents the trade costs between  $i$  and  $j$  countries. The latter is mainly represented as the country-pair-specific information such as contiguity and distance, common language, ethnic groups or borders, common memberships in regional trade agreements and tariff rates between trade partners.

Already in 1997, Hatzichronoglou stated that in the context of economic globalization, technology is a key factor in enhancing growth and competitiveness in business. Firms which are technology-intensive innovate more, penetrate new markets, use available resources more productively and as a result offer

higher remuneration to the people that they employ (Hatzichronoglou, 1997). There are few recent studies which examine the impacts of technological endowments on the trade intensities by introducing new measures based on the different technological indices. Namely, Filippini and Molini (2003) construct a technological distance between trade partners based on the technological indicator (TI, Archibugi & Coco, 2002) accounting for the creation of technology, diffusion of technology and development of human skills. The Technology Achievement Index (TAI) provided by the United Nations in its Human Development Report of 2001 is employed by Martinez-Zarzoso and Marquez-Ramos (2005) to capture the performance of countries concerning technology and human knowledge. Both studies find that the technological gap among countries strongly determines trade flows: countries tend to exchange more when there is little gap in their technology endowments.

However, the main problem in the empirical analysis still remains the data availability. Namely, the indices presented above have quite narrow coverage of the countries as well as the time periods. Additionally, they do not examine the impacts of the Internet explicitly. Therefore, instead of examining the impacts of technological size on the trade flows, we rather aim to cover the gap in the literature and contribute the research on the effects of the Internet use and ICTs.

## MODEL SPECIFICATION AND DATA DESCRIPTION

Although the gravity model is already a commonly accepted and a standard tool to study the trade flows, the specification of the equation for estimation purposes differs according to the approaches of different authors. The most remarkably, Silva and Tenreyro (2006) in their seminal paper have raised a problem that has been ignored so far by both the theoretical and applied studies. In particular they argued, that the logarithmic transformation of the original model is not relevant approach to estimate elasticities. Namely, the multiplicative trade models with multiplicative error do not satisfy the assumption of the homoscedasticity of the error term since there is dependency between the error term of transformed log-linear model and the regressors, which finally causes inconsistency of the ordinary least squares estimator or the random and fixed effects estimator.

As an alternative, authors propose the estimation of the gravity model in levels using the PPML estimator. Besides tackling with the problem of heteroscedasticity of the error term, the estimator deals with the zero value observations in trade flows. Additionally, unlike to the standard Poisson approach, PPML does not require the data to be Poisson type, in other words, that it does not require the dependent variable to be an integer. Finally, PPML allows to identify effects of time invariant factors. The latter is very important feature for our analyses, since we aim to test the effects of several dummy variables indicating memberships in different regional agreements together with the time dummy controlling for the occurrence of crisis during the estimation period.

Following the contribution of Silva and Tenreyro (2006), we analyse the trade of all the EU members with the rest of the world based on the following estimation equation:

$$X_{ijt} = \beta_0 + \beta_1 \ln(Y_{it}) + \beta_2 \ln(Y_{jt}) + \beta_3 \ln |Y_{it} - Y_{jt}| + \beta_4 \ln(Z_{ij}) + \beta_5 D_{ij} + \beta_6 \ln(Int_{it}) + \beta_7 \ln(Int_{jt}) + \beta_8 \ln(ICT_{it}) + \beta_9 \ln(ICT_{jt}) + \mu_{ij} + \varepsilon_{ijt}$$

where  $X_{ijt}$  is the export flows from  $i$  to  $j$  at time  $t$ . As for the right hand side of the equation, we include independent variables approximating the market size, geography and digitization. Namely, market related variables are  $Y_{it}$  and  $Y_{jt}$ , which stand for the nominal GDPs of the trade partners;  $|Y_{it} - Y_{jt}|$  that refer to the absolute value of the difference between the constant per capita GDPs of the importer and exporter countries at time  $t$ . Geographical variables are presented by  $Z_{ij}$ , which is the non-binary but time invariant information such as distance between the exporter and importer countries;  $D_{ij}$  which stands for contiguity and equals one when the trade partners share the common border and zero otherwise. The remaining variables approximate digitization:  $Int_{it}$  and  $Int_{jt}$ , measure Internet usage of the exporter and importer countries respectively and  $ICT_{it}$  and  $ICT_{jt}$  stand for the share of ICT in the gross fixed capital formation of the trade partners at time  $t$ . As for the last two components of the equation,  $\mu_{ij}$  is the time invariant individual characteristics for each pair of trade partners and  $\varepsilon_{ijt}$  is the error term that is assumed to be normally distributed with mean zero. Exporter countries are the all 28 EU members while as importers, together with the EU countries we take the rest of the world consisting of 234 countries.

Variable Name	Description	Source	Expected sign
lnGDP_r	Natural logarithm of current GDP of a reporter country	WDI	+
lnGDP_p	Natural logarithm of current GDP of a partner country	WDI	+
Indiff_gdp	Natural logarithm of the absolute difference between the current GDPs of the importer and exporter countries	WDI	-
Indistance	Natural logarithm of geographical distance between the capital of the trading partners	CEPII	-
contig	Dummy variable standing for the neighboring countries	CEPII	+
ln_Int_r	Natural logarithm of the number of Internet users in a reporter country	OECD	+
ln_Int_p	Natural logarithm of the number of Internet users in a partner country	OECD	+
ln_ICT_r	Natural logarithm of the share of ICT in gross fixed capital formation in a reporter country	OECD	+
ln_ICT_p	Natural logarithm of the share of ICT in gross fixed capital formation in a partner country	OECD	+

Table 1. Variables employed in the model

Source: own compilation.

The data of the export flows come from the Eurostat. The data of the current and per capita constant GDP levels in millions of US dollars are included from the World Development Indicators database compiled by the World Bank. The data for the other variables such as distance and contiguity are taken

from the CEPII database. Finally the data on Internet usage and share of ICT in gross fixed capital formation are compiled from OECD database. According to the data availability, the sample covers the period from 1999 to 2014.

## ESTIMATION RESULTS

As discussed in the previous section, we estimate the augmented gravity model by PPML estimator, where all the variables, except the dependent variable and dummies, are taken in logarithms. The latter two are taken in levels. Table 2 reports the estimation results.

	exports_millions
lGDP_r	0.533*** (9.86)
lGDP_p	0.632*** (12.20)
lndiff_gdp	-0.261*** (-10.94)
lndistance	-0.848*** (-36.47)
contig	0.274*** (4.81)
ln_Int_r	0.326*** (4.95)
ln_Int_p	0.164* (2.54)
ln_ICT_r	0.0517** (2.97)
ln_ICT_p	0.00416 (0.27)
_cons	-14.14*** (-24.85)
N	2902

Table 2. Estimation results

*t* statistics in parentheses

Significance at the 10%\*, 5%\*\* and 1%\*\*\* levels

Source: own calculations, Stata (2013).

As Table 2 illustrates, current GDPs of the importer and exporter countries yield positive and statistically significant coefficients already at the 1% significance level, implying that the economic size of the trade partners increases exports from the EU. The absolute difference between the constant GDPs is also significant at the 1% significance level and yields negative sign as expected. This finding indicates that the economic similarity with the trade partner is positively correlated with the export flows. Distance gets the negative and contiguity positive and statistically significant signs. Thus, our geography variables also yield the expected signs and are in line with the literature findings.

As for the variables standing for the digitization of economies, estimations show that higher is the number of the internet users in trade partners, the higher are the export flows from reporters. As for the investment in ICTs, our estimates indicate that the higher is the share of the ICT investments in gross fixed capital formation in a reporter country, the higher are the exports flows to the rest of the world. However, ICT investments in partner countries (though yields a positive sign) is not statistically significant. Thus, while exports are positively affected by the internet usage in both trade partners, ICTs are significant only once invested in a reporter country. This finding might imply that investments in ICTs increase exporting potential of a given country and simultaneously reduces dependence on imports.

## CONCLUSIONS

The paper aimed to identify the impacts of digitization on the export performances of the EU. Based on the augmented gravity model, we estimated the regressions on panel data of export flows of the EU28 with the rest of the world over the time period 1999-2014. Together with market and geography related variables, we controlled for the internet usage and investments in ICTs in both reporter and partner countries. We followed the recent advancement in the empirical trade literature and provided estimation results by PPML estimator.

Our estimates, indicated that the exporting potential is highly affected by digitization: higher is the number of the internet users in trade partners, the higher are the export flows from reporters. However, while exports are positively impacted by the internet usage in both trade partners, ICTs are significant only once invested in a reporter country. This finding might imply that investments in ICTs increase exporting potential of a given country and simultaneously reduces dependence on imports.

To conclude, our paper highlights that digitization indeed has boosting effects on export performances of given countries and investments in ICTs could yield crucial contribution in utilizing comparative advantages.

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## GREEN TALK AND GREEN WALK: HOW OIL COMPANIES POSITION THEMSELVES IN SOCIAL MEDIA?

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### ABSTRACT

Greenwashing is a deceptive action done to manipulate the public opinion on being green. In other words, it is a discrepancy between “green talk” and “green walk”. It is highly common especially in controversial industries. As being a controversial industry, oil companies turn to corporate social responsibility (CSR) to obtain legitimacy. The aim of this research is to explore how oil companies position themselves in social media. On that ground the social media postings- messages, pictures and videos- of the World’s top ten oil companies were analyzed. As a conclusion, “green talk” patterns for oil companies were revealed.

**Keywords:** *Green talk, Green walk, Controversial industries, Corporate positioning, Oil companies, Social media*

### INTRODUCTION

Today marketplace is constituted by a great concern towards environment. Over the years, business and industry, the media, politicians, and the general public have been more and more talked about green issues, sustainability, and corporate social responsibility (CSR). Subsequently, environmental concern shifted from the “local scale (such as air pollution), to an increasingly global scale (as in global warming)” (Saha and Darnton, 2005 p.117). By the 1990s, environmental issues were one of the most mentioned social issues in the management field (Ramus and Montiel, 2005). For companies “being green” differs from having concerns in relation with ecology, conservation (planet and animal), fair trade, clean water, CSR, and sustainability.

Ecological issues are also affected consumers in a way that they are more open to the ecological alternatives. This growing consciousness of consumers, companies began to use green communication to promote their products. After three decades, “greenness” is still a hot topic. Correspondingly, “green washing” has emerged as a side effect of green marketing (Parguel et al., 2015). Greenwashing is defined as “disinformation disseminated by an organization so as to present an environmentally responsible public image” (Concise Oxford English Dictionary, 2010). In other words, greenwashing is “the act of misleading consumers regarding the environmental practices of a company or the

environmental practices of a company or the environmental benefits of a product or service” (Parguel et al., 2015 p. 2). There are mainly three types of greenwashed advertising: (1) using false claims; (2) omitting information that could help to evaluate environmental claim sincerity; and (3) using vague or ambiguous term (Carlson et al, 1993). Those could be summed up as “lying, lying by omission or lying through lack of clarity” (Parguel et al., 2015).

Previous research demonstrates that many products which make environmental claims commit at least one of the “seven sins of greenwashing” (TerraChoice 2010 ). The power of “green purchase” force companies to act more “green” and send environmental friendly messages. Indeed, many companies boast some shade of “green”; even companies in “dirty” industries proclaim their dedication to the environment more loudly than the others (Cherry and Sneirson, 2012). Companies in controversial industries, frequently find their organizational legitimacy being challenged (Palazzo and Scherer 2006). Public awareness and belonging to a certain industry (e.g., oil, tobacco, and alcohol) are likely to force them to “come clean”.

The aim of this study is to explore how oil companies- one of the most criticized industry about greenwashing- position themselves in social media. More specifically, this research aims to answers the following questions:

- (i) What is the social media usage and statistics of the oil companies?
- (ii) What is the content of the oil companies’ communication in social media channels?

## CONCEPTUAL FRAMEWORK

### *Greenwashing Concept*

The changing business environment created an era of social responsibility that put pressure on firms to examine their actions on sustainability. During the last twenty years, social responsibility is one of the widely accepted concepts in the business all over the world (Lee, 2008). Today, the firms are using social responsibility activities and spending billions of dollars to differentiate themselves from their competitors and bolster their reputations (Ellen et al., 2006). Social responsibility takes many forms, such as philanthropy, humane employee treatment, environmental responsibility, and cause related marketing. However, the sincerity of the companies about being socially responsible is highly criticized since CSR activities are effective communication tools that can be easily use to misguide the stakeholders. One of the important forms of CSR is environmental responsibility because it is a scarce resource, and any kind of environmental pollution directly affects the life ongoing in the world.



The growing environmental consciousness, and consumers' preferences towards the green products and services force companies to act accordingly. The International Organization for Standardization (1996 p.2) defined a corporate environmental policy as a "statement by the organization of its intentions and principles in relation to its overall environmental performance, which provides a framework for action and for the setting of its environmental objectives and targets".

Nevertheless, this trend gave rise to "greenwashing", which is first used in 1986 by American environmentalist Jay Westerveld in response to a hotel's efforts to encourage guests to help the environment by reusing towels. Westerveld interpreted the reuse of towels was for to gain profit but not for to reduce water, energy, and detergent use as the hotel claimed. Greenwashing was derived from whitewashing- using white paint to cover over dirt in a superficial or transparent way. On that sense, greenwashing was used to signify "insincere, dubious, inflated, or misleading environmental claims" (Cherry and Sneirson, 2012 p. 141). Previous research questioned the ethics of marketing good corporate conduct (Stoll, 2002; Wulfson, 2001), and have criticized companies for false advertising to create "green" images in the minds of the public by misleading environmental claims (Lowenthal, 2001). Previous researchers reported a statistically significant relationship between an organization's environmental practices and its organizational behavior (Al-Tuwaijri et al., 2004; Clarkson, et al., 2011). Specifically, companies that engage in sound environmental practices such as companies operating in controversial industries- are more likely to disclose those practices; (Clarkson et al., 2011).

Greenwashed actions are a kind of "creative reputation management" by hiding deviance, deflecting attributions of fault, and hiding the nature of the problem or allegation. In the end, the aim is to ensure the company's reputation, and to seek a leadership position (Laufer, 2003). What is important for companies is to gain legitimacy from stakeholders; however, they merely symbolically adopt legitimizing practices (Marquis and Toffel, 2012). In other words, companies "maintain standardized, legitimating, formal structures, while their activities vary in response to practical considerations" (Meyer & Rowan, 1977: 357). Even if companies publicly announced activities demanded by stakeholders, yet did not implement them (Westphal and Zajac 1995, 2001). There are three elements of deception that greenwashing set up: (1) *confusion*, (2) *fronting*, and (3) *posturing* (Laufer, 2003).

*Confusion* is originated from "the complex nature of the corporate form, reliance on decentralized decision-making, and the practices of managerial winking" (Laufer, 2003 p.257). Companies manage confusion by controlling and limiting the documents and the information flow opened to the regulators and prosecutors. *Fronting* includes casting doubt on the severity of the problem, disclose or publish exaggerated claims, emphasizing uncertainty associated with problem, acknowledging problem by questioning available groups, and rebranding to avoid past association; use image advertising to suggest "green" association. It is accomplished through the representations of retained

counsel, compliance officers, ethics officers, and ethics committees. *Posturing* includes employing “front groups” or coalitions to support or oppose solution or legislation, using “front group” to promote moderate “middle ground” positions, using data to suggest that front groups enjoy widespread public or grassroots support, and employing front groups to examine, define and redefine industrial standards. Posturing seeks to convince both internal customers, and external stakeholders in terms of ethical behaviors.

#### *Oil Companies and Sustainability Claims*

Controversial industries may be defined on two grounds. One is derived from the goods or services that they provide and second one is how they conduct themselves in the process of achieving business objectives. In the first case, industries -i.e. tobacco, alcohol, gaming, and adult entertainment- are seen as controversial since their products are viewed as sinful by society based on social norms, their addictive nature, or potential undesirable social consequences resulting from their usage (Cai et al., 2012; Hong and Kacperczyk 2009). While in the second case the controversial base of the industry is defined in relation with having practices that will harm stakeholder interests or social expectations (Cai et al. 2012; Carroll 1979; Klein and Dawar 2004). The second group of industries includes companies conducting morally corrupt or unethical behaviors, socially or environmentally irresponsible practices, and product harm crises. On that ground, oil industry is controversial because there has been persistent, widespread engagement in unscrupulous business practices that entail adverse social, environmental, and ethical consequences (Du and Vieira, 2012).

The increasing regulatory and public pressure, the climate strategies of most oil companies have started to change (Kolk and Levy, 2001). In fact, the oil and gas sector has been among the leading industries in championing CSR. Indeed because of the highly controversial nature of the industry, oil companies face challenges in building the requisite legitimacy through their CSR endeavors. (Du and Vieira, 2012). They attach greater importance to their social and environmental impact and they engage more with local communities than they used to in the past. They applied corporate codes of conduct and social reporting; and also they embraced major international CSR initiatives such as Kofi Annan’s Global Compact and the Global Reporting Initiative. Indeed, Jo and Na (2012) found that risk reductions of controversial firms through CSR engagement is economically and statistically more significant than those of non-controversial firms.

Nevertheless, the effectiveness of these initiatives in the oil, gas and mining sectors has been increasingly questioned, since there is a gap between the stated intentions and their actual behavior. Some highly critical oil industry insiders have opinions such as “CSR is a waste of time”; “CSR is about managing perceptions and making people inside and outside the company feel good about

themselves; CSR is a red herring in terms of development projects” (Frynas, 2005 p. 583). The core business of an oil company, the production of oil and gas, inevitably leads to emissions of greenhouse gases both in the production process and with the end users’ consumption of the products. Saverud and Skjarseth, (2007) investigated the oil companies’ climate strategy formulations and implementation in the period 1998 to 2005. And they reached a conclusion that there was general consistency between the rhetoric and actions of oil companies- namely BP, ExxonMobil, and Shell.

Despite that, more research is called on sustainability communication since it tends to trigger stakeholder skepticisms and perceptions of corporate hypocrisy (Dawkins 2004; Du et al. 2010; Maignan and Ralston 2002). There are previous studies generated valuable insights, however, analyzing all the social media tools used by the worlds top ten oil companies did not studied. The purpose of this research is to explore how oil companies communicate and position themselves on that ground in social media. In other words, this research aims to analyze the focal points of oil companies’ messages, and to frame the content and pattern of their “green talk” with their stakeholders via social media.

## RESEARCH METHODOLOGY

This study employed a qualitative research and the data is analyzed via content analysis. Content analysis manifests the content of a communication in an objective, systematic, and quantitative manner (Kolbe and Burnett, 1991).

### *Data Collection*

The sample of the study consisted of the world’s top ten oil companies according to their revenues in 2015. In the research process, first of all, their social media connections were obtained from their official websites. Their names, revenues, and social media connections were given in Table 1. As a second step, their posts- such as messages, pictures and videos, were analyzed from their social media accounts and coded. Since this sampling frame generated a huge database, the last 200 sharings of each company in each social media account- totally 3000 postings- were examined.

### *Unit of Analysis*

Six units that have been commonly used in content analysis literature are: word, word sense, sentence, theme, paragraph, and whole text (Weber, 1990). In this study, the words and phrases, photos and videos were chosen as a unit of analysis.

### *Reliability Measurement*

Two coders, undergraduate students, were trained for coding. They were uninformed of the study propositions. After the training, the actual coding started. To determine the intercoder reliability percentage match was used. By doing so, the percentage of agreement between two judges was calculated. Percentage match was found as 92 % for the study which was higher than the recommended level of 85% (Kassarjian, 1977).

## RESEARCH FINDINGS

The thematic analysis of the postings done by the top ten oil companies via their instagram, facebook, twitter and youtube accounts generated second-order and first-order thematic codes and as a result of the study, a communication pattern was revealed.

**Table 1: World's Top Ten Oil Companies' Revenues and Social Media Accounts**

Company name	Revenue 2015 (US\$ billion)	Twitter	Facebook	Instagram	Youtube
Saudi Aramco	478	√		√	√
Sinopec	455.499	√			
China National Petroleum Corporation (CNPC)	428.62	√			
PetroChina	367.982	√			
Exxon Mobil	268.9	√			√
Royal Dutch Shell	265	√	√	√	√
Kuwait Petroleum Corporation (KPC)	251.94	√	√		
BP	222.8	√	√	√	√
Total SA	212	√	√		√
Lukoil	144.17	√	√	√	

As it is seen at Table 1, all of the top ten oil companies have Twitter accounts but only Shell and BP have more than three social media accounts. Some of these oil companies also have Flickr, Googleplus and LinkedIn accounts also. However, in this study Twitter, Facebook, Instagram, and Youtube accounts were analyzed due to active usage. Sinopec, CNPC and PetroChina do not give any link to their social media accounts from their website, while the rest give links from their website. All of these companies supply social responsibility and sustainability related information on their websites.

**Table 2: Instagram Usage Information of Oil Companies**

INSTAGRAM		
Posts	Follower	Following

Saudi Aramco	193	23,8 k	0
Sinopec			
CNPC			
PetroChina			
Exxon Mobil			
Royal Dutch Shell	413	61,8 k	5
KPC			
BP	99	3529	83
Total SA	47	4051	0
Lukoil	53	3072	0

Only Saudi Aramco, Shell, BP and Lukoil have Instagram accounts. In Instagram, Shell has the highest number of followers. Saudi Aramco manages its Instagram account as a source of corporation communication professionally. In general they mention history (old photos), staff, technology, refineries, openings, collaborations, environmental projects, and R&D efforts. While they are mentioning those issues, they use hashtags such as Our History, Our Community, Our People. Both languages -Arabic and English- are used.

Shell refers to innovation, being global, technology, teamwork, energy efficiency, and future of energy. Also shares photos of eco-marathon, Formula 1, our future city competition, and several environment friendly actions. Shell is also professional in creating a corporate identity. However, as different from Saudi Aramco, uses hashtags of cities or countries for the photos of their staff – Saudi Aramco uses Our People hashtag. Bu doing so Shell highlights being global. In addition to that, Shell also shares photos from their history by using hashtag tbt- throwback Thursday and mentions several environmental friendly activities by partners.

BP is more different than the other oil companies in Instagram. They also use to communicate with the public however; they act more like an individual rather than a corporation. BP uses emojis, which are highly common in personal messages in social media. Emojis are like emoticons and exist in various genres, including facial expressions, common objects, places and types of weather, and animals. The other difference of BP is that, they send messages celebrating occasions such as Valentines Day, Chinese New Year. Third, they ask mathematical questions with the hashtag brainteaser and followers give answers. Hence, they create an interactive two-way communication. And also, they give reference to the person, who takes the photo and mention their name. Other than that, they shares photos of refineries, platforms, their support projects, and the every day products made of oil. But they do not share their environmental actions much.

Total has the lowest posting in Instagram. These posts are about mainly CSR activities such as scholarship programs, sponsoring students in humanitarian, environmental or innovation projects,

ideas for climate change, youth powering, and developing new energies. They often use hashtag make things better.

Lukoil shares mainly press meetings, awards, refineries, platforms, and operations in various regions. They mention just one project on environment- reproducing the biological sources.

In the case of **Facebook**; Shell, KPC, BP, Total SA and Lukoil have Facebook accounts, while Saudi Aramco and Chinese counterparts do not have one.

Shell uses a same language just like they use in Instagram, but they give much more detailed information in facebook. Mostly they share videos and use interrogative sentences such as Who is with us?, We will be there, will you?. The other common usage is “discover”, “learn more”, “see why” and “come and see”.

KPC uses Arabic language and shares only the photos of top managers in meetings, speeches and activities.

BP uses a parallel language with Instagram. Generally they share videos in Facebook. They give link to the sustainability report and annual report, and mention BP statistics. The speeches of top managers, and differently from Instagram, the talks of “their chief economist” are given.

Total displays a CSR orientation in Facebook also. They mention about challenges, their giant projects, and innovation around the world, but more than those, they share about their staff, environmental responsibility, solar power investments, and their commitment to better energy. They refer to “Total’s got talent!” when they are mentioning their staff. And they promote natural gas and express becoming a gas company is their fight against climate change. In their communication style, they give reasoning for their actions such as *“Because energy concerns everyone, Total created Planete Energies initiatives”* or *“Because progress is crucial in the energy industry, Total is innovating with its Partner”*.

Lukoil is much more active in Facebook than its other social media accounts. They share about cooperation agreements, partnership, CSR conference, overseas operations, shareholder meetings, and launch of operations. Mostly they share the photos of top management but not the staff and they give detailed information about their financial statements, production capacities and actual production data. They do not share much about environmental projects, just share their participation to the CSR conference.

**Table 3: Youtube Usage Information of Oil Companies**

	YOUTUBE		
	Joined in	Subscribers	Views
Saudi Aramco	2013	7,917	1,065,329
Sinopec			

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CNPC			
PetroChina			
Exxon Mobil	2006	22,206	62,292,854
Royal Dutch Shell	2005	37,256	62,961,425
KPC	2010	659	165,046
BP	2010	20,723	23,089,180
Total SA	2013	21,842	53,883,594
Lukoil			

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In Youtube usage Saudi Aramco, Exxon Mobil, Shell, KPC, BP and Total SA have accounts. Shell has the highest number of subscribers and views in Youtube.

All of the six companies in Youtube categorized their video sharings. The categorizations were summarized in Table 4.

**Table 4: Youtube Categories of Oil Firms**

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	Categories		Categories
Saudi Aramco	Our People	Royal Dutch Shell	Shell TV
	About Saudi Aramco		Corporate
	Saudi Aramco Values		Shell Eco-marathon
	Working at Saudi Aramco		Shell Jobs and Careers
	Popular Uploads		TV Commercials
			Shell Motorsports
Exxon Mobil	Featured Videos	BP	BP Energy Outlook
	Energy		BP and Technology
	Education		Committed to America
			BP Statistical Review of World Energy
	Engineering		BP's US Economic Impact
	Global		Energy Moving Forward
	Who we are		The Energy Future
			BP Careers
			BP People: Our Stories
Total SA	About Us	KPC	About KPC
	Our Projects		KPC Subsidiaries
	Our Products		Reports
			Health Safety and Environment
	Motorsports		KPC Initiatives
	Education		Speeches and Interviews
	Careers		Celebrations
	Corporate Responsibilities		Awareness Videos
	Our Advertising		KPC People
			KPC Regional Offices

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Saudi Aramco share videos in Arabic and English while KPC only shares in Arabic language. Differing from the others Saudi Aramco airs "about us" videos in Korean, Japanese, and Mandarin

Chinese languages. Total and KPC articulate about environment and corporate responsibility, while the others mention future of the energy. BP highlights its importance in the US economy and its commitment to America. However, Exxon spotlights the engineers and tries to point out their symbolic meaning in our lives as using a message: *“without engineers we would have been using pageants to communicate”*.

**Table 5: Twitter Usage Information of Oil Companies**

	TWITTER			
	Joined in	Tweets	Follower	Following
Saudi Aramco	2009	3133	313 k	14
Sinopec	2015	131	212	111
CNPC	2008	5	673	0
PetroChina	2011	47	1607	794
Exxon Mobil	2009	4981	181 k	212
Royal Dutch Shell	2009	2059	363 k	135
KPC	2010	1	307	2
BP	2013	4474	22,4 k	149
Total SA	2009	8741	230 k	386
Lukoil (eng)	2013	170	984	10
Lukoil (rus)	2011	890	5844	10

The Twitter usage information of oil companies was given in Table 2. According to Twitter usage, CNPC has the oldest (2005), BP and Lukoil (English version) have the youngest (2013) accounts. Total SA has the highest number of tweets, but Shell has the highest number of followers (363 k). The second highest follower amount belongs to Saudi Aramco.

The twitter usage does not differ from the other social media communications of the oil companies. However, there are several points that should be emphasized. Saudi Aramco uses both languages- Arabic and English- and tweets about the projects, business opportunities, meetings, forums, conferences, awards and speeches of the managers. Besides, Saudi Aramco uses “meet us”, “join us”, “listen to”, “learn more” phrases more often in Twitter. Exxon Mobil mentions energy, efficiency, climate change, their history, actions, innovation and investment. They also tweet about US Government’s decision on canceling planned lease sales off the coasts of Virginia, North Carolina, South Carolina, and Georgia as *“disappoint decision Atlantic energy development”*. In the case of environment, they also remark about emissions, natural gas as a clean technology and future energy report for 2040. They give information about how technology reduces our environmental footprints, but at the same time, they state petroleum as a key ingredient of every day products. Besides that, they value being an engineer like in their Youtube Channel. Shell talks about being global, high technology, and give links to download their annual report and free e-book on the colors of energy. Total, tweets about open innovation, sun power, challenges of off shore production, pay tribute to Brussels’ victims, cooperation and links to download annual report. They are, like in their other social



media accounts, talk more about their CSR orientation. They use “learn more”, “be part of”, “see how” phases more often. BP, in parallel with its Instagram account, shares statistics, energy outlook, and weekend playlist. They also give links to download annual report and sustainability report. KPC tweets in Arabic and give links to their Instagram account, while Lukoil give links to their Facebook account in every tweet. Chinese oil companies – Sinopec, CNPC and Petro China, only have twitter account in social media and they do not give any link to their twitter account in their websites. Besides that, Sinopec is more active in twitter and shares news, CSR, people, oil discovery, innovation and operations, while the other two are inactive. CNPC opened a Twitter account in 2008 but only shared five tweets- four in 2008 and one in 2009. They tweeted using adjectives such as “energize, harmonize, realize”, and “dynamic, loyal, honest, commitment”. Petro China gave information about the company, income, and their collaborations. But from 2014 their tweets are nonsense- about mobile games.

## CONCLUSION

The aim of this research is to analyze the social media communication of top ten oil companies and to explore how they position themselves in relation with green talk and green walk. On that ground, the Twitter, Youtube, Instagram and Facebook accounts of Saudi Aramco, Sinopec, CNPC, Petro China, KPC, Exxon Mobil, Shell, BP, Total and Lukoil were reviewed, and in total 3000 sharings were analyzed. As a result, this research generated several conclusions:

First of all, Chinese oil companies are not active in social media, however they have sustainability and environment report in their websites. In China due to the censorship laws it is forbidden to participate in the social networks that dominate the rest of the world. Therefore China created its own social platforms and networks. China’s social-media sector is very fragmented and local. Each social-media and e-commerce platform has at least two major local players: in microblogging (or weibo), for example, Sina Weibo and Tencent Weibo; in social networking, a number of companies, including Renren and Kaixin001. Chinese oil companies do not give any link to any social media account.

Saudi Aramco, Exxon Mobil, Shell, BP, Total, KPC, and Lukoil are more active and have more than one social media accounts. There are differences and similarities among their communication styles. Total is the one emphasizing more on CSR including scholarships, community support, and environmental issues. Saudi Aramco in Twitter, Lukoil and KPC shares the photos of top management. Saudi Aramco in Instagram and Youtube shares about their staff and values them as “our people”, “our community”. Lukoil also commonly shares about the financial data and production capacity to underline their power, while Exxon Mobil empathizes their engineers as their

power. BP is more personal than the others by celebrating Valentines Day or New Year and asking several math problems. BP does not mention much about environment, but the need of petroleum in every product. And Shell focus on being global, innovator and high tech. They relate investing in technology with creating more environmental friendly products.

On the other hand there is a common ground in their communication. They all emphasize being global, doing a challenging work, and being an active participant in conferences and forums. They draw a common portray as that they are important for the continuance of life. They all share about "world water day", "international women day", having women engineers and managers in terms of diversity in the workplace. They give information about their capacity and energy demands. In the case of "being green", they give information about emission, they support natural gas as a clean energy, they mention several environment related projects such cleaning ports, supporting undersea researches etc. They talk about how huge and hard business they are in while not mentioning its environmental effects. They do not talk much green, but emissions, and technology. In general, their sharings give the impression that they are working to supply our demand. They share sustainability report, annual report, and energy reports to increase the awareness and knowledge.

This research is an exploratory study having limitations. First of all, in the study last 200 sharings and total 3000 postings were analyzed due to huge amount of database. Analyzing more archival data may generate a historical trend analysis. Also this study covers only the sharings of the oil companies but the messages, postings and answers of the public can be examined in order to reflect the reactions. That may help to draw a two-way communication pattern.

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## EMOTIONAL INTELLIGENCE IN THE BANKING SECTOR – THE CASE OF LEBANON

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### ABSTRACT

Emotional intelligence has faced many controversies over the years whether it is of significance and how it can be defined and labelled. It is of benefit to study this concept in a culturally-driven approach. Given that Lebanon differs from other cultures in its uniqueness, and finding no model of emotional intelligence that fits this culture, this paper aims to create a preliminary model customized for the Lebanese retail banking sector. Implementing emotional intelligence in the Lebanese retail banking sector will help the sector to improve over the years. The model will be developed and finalized in a further research that is based on this preliminary model. The model will be created based on existing models, interviews, theoretical research and secondary data. Interviews will be conducted with scholars to develop a scientific, well-built and structured model as well as with bank managers to shed the light on the variables found in the Lebanese culture which can be used in the EI model. This paper will help in spreading awareness on the importance of EI and its role in improving the Lebanese retail banking sector as well as setting a base for future research that will aim at finalizing this model.

**Keywords:** *Emotional intelligence, EI, Preliminary model, Lebanon, Lebanese retail banking sector.*

### INTRODUCTION:

Studying the concept of emotional intelligence in the Lebanese culture is of great interest since emotional intelligence helps in enhancing organizations that are in the service field such as banks, which is the field of study of this paper. Therefore, emotional intelligence will facilitate the attainment of the goals that are set. The Lebanese culture, in nature, differs from other cultures since it gives much weight to communication, the fact that will ease the process of implementing and enhancing emotional intelligence and supporting the relationship marketing strategy that will be researched and linked to EI in the future as a continuation for this paper. Since the Lebanese culture is considered to be unique, there is a need to create an EI model that fits the Lebanese Retail Banking sector.

The aim of this research is to create a preliminary model of emotional intelligence that fits the Lebanese retail banking sector based on existing models, interviews, theoretical research and secondary data.

Towards the aim five objectives have been set:

1. Undertake an extensive literature review to construct the theoretical foundation of the research.
2. Identify potential models that are relevant to the model that this paper aims to create to fit the Lebanese retail banking sector.
3. Identify potential gaps in existing theory.
4. Undertake preliminary primary qualitative and secondary research to develop a preliminary model of emotional intelligence for the Lebanese retail banking sector.
5. Combine the research's theoretical findings with the preliminary primary research results to develop a preliminary model of Emotional Intelligence in the Lebanese retail banking sector.

Creating a preliminary emotional intelligence model for the Lebanese retail banking sector is of great benefit to the Lebanese service industry. It is a study that shows how the uniqueness of the Lebanese culture can be used to boost individual levels of emotional intelligence which will result in enhanced performance and ultimately better outcomes. There is still need for an EI model for different cultures, such the case with Lebanon. The Lebanese retail banking sector is in 'good shape'; however, bank managers seek continuous improvement on all levels. Spreading awareness of the concept of EI in the Lebanese retail banks and implementing it through their trainings will definitely show significant effect and will affect the Lebanese economy. Focusing on EI will help bank employees to better enhance their skills and satisfy their clients by providing suitable offers. The higher the growth of bank loans, more businesses will enter the market and invest their loans to generate profits. This will eventually lead to an improvement in the overall Lebanese economy.

## **THEORETICAL FOUNDATION:**

### *1.1 Background to Emotional Intelligence:*

Over the years, the concept and definition of emotional intelligence has evolved since the 19<sup>th</sup> century. Gabriel (2000) stated that in 1990, Peter Salovey and John Mayer discovered a universal pattern to study emotions after conducting research that showed that individuals are able to identify and recognize emotions through faces, certain designs and colors. However, in 1995 and 1998, the term "Emotional Intelligence" became more solid and structured and people became aware of this terminology as is evident in what Daniel Goleman wrote in "Emotional Intelligence: why it can matter more than IQ". Theorists such as Thorndike, Wechsler and Gardner were the first to generate

awareness of the concept of EI and have facilitated the emergence of current well known pioneers in the field of EI such as Peter Salovey and John Mayer, Daniel Goleman and Reuven Bar-On.

Emotional intelligence is one of the most vital factors that need to be highlighted and studied when it comes to success whether we are dealing with the educational or business sector.

### *1.2 Existing Models of Emotional Intelligence:*

McCleskey (2014) pin-pointed the most critical basics of emotional intelligence by describing its progress throughout the years until reaching the current models. Several models were created to define, measure and analyze emotional intelligence. These models can be summed up into ability models, mixed-models also known as the emotional and social competence models and trait models that include many other sub-models.

Caruso and Salovey (2004) and Jordan et al. (2010) agree that the Mayer ability model is the most common model used to measure emotional intelligence as it is considered to be the “gold standard” for defining emotional intelligence. This model is based on a four-branch approach including four basic abilities which are: 1. Emotion perception, 2. Emotion facilitation, 3. Emotion understanding, and 4. Emotion regulation. Using the Mayer ability model means using the Mayer-Salovey-Caruso Emotional Intelligence Test (MSCEIT) in order to measure the level of emotional intelligence.

The second category encapsulates the emotional and social competencies models (ESCs) which are also known as the mixed-models of emotional intelligence. The Goleman and Bar-On models are mixed models.

The third emotional intelligence model is the trait model. Petrides et al. (2007) stated that the four components of the trait model are as follows:

1. Well-being: self-confidence, happiness, and optimism.
2. Sociability: social competence, assertiveness, and emotion management of others.
3. Self-control: stress management, emotion regulation, and low impulses.
4. Emotionality: emotional perception of self and others, emotion expression and empathy.

Petrides (2010) defined the trait model as “the only operational definition in the field that recognizes the inherent subjectivity of emotional experience” and listed the numerous facets that the trait emotional intelligence comprises: 1. Adaptability, 2. Assertiveness, 3. Emotion expression, 4. Emotion management, 5. Emotion regulation, 5. Impulsiveness, 6. Relationships, 7. Self-esteem, 8. Self-motivation, 9. Social awareness, 10. Stress management, 11. Trait empathy, 12. Trait happiness, 13. Trait optimism.

The basic concepts of the three major models of emotional intelligence which were established by expert theorists in the field of EI are described below:

Table 1: Three Competing Models, all Labelled "Emotional Intelligence"; source: R. Sternberg (2000), *Handbook of Intelligence*, Cambridge, UK; Cambridge University Press, Page 401.

Mayer & Salovey (1997)	Bar-On (1997)	Goleman (1995a)
Overall Definition	Overall Definition	Overall Definition(s)
"Emotional intelligence is the set of abilities that account for how people's emotional perception and understanding vary in their accuracy. More formally, we define emotional intelligence as the ability to perceive and express emotion, assimilate emotion in thought, understand and reason with emotion, and regulate emotion in the self and others" (after Mayer & Salovey, 1997).	"Emotional intelligence is... an array of noncognitive capabilities, competencies, and skills that influence one's ability to succeed in coping with environmental demands and pressures." (Bar-On, 1997, p. 14).	"The abilities called here <i>emotional intelligence</i> , which include self-control, zeal and persistence, and the ability to motivate oneself." (Goleman, 1995a, p. xii). [...] "There is an old-fashioned word for the body of skills that emotional intelligence represents: <i>character</i> " (Goleman, 1995a, p. 28).
Major Areas of Skills and Specific Examples	Major Areas of Skills and Specific Skills	Major Areas of Skills and Specific Examples
<i>Perception and Expression of Emotion</i> *Identifying and expressing emotions in one's physical states, feelings, and thoughts. *Identifying and expressing emotions in other people, artwork, language, etc. <i>Assimilating Emotion in Thought</i> *Emotions prioritize thinking in productive ways. *Emotions generated as aids to judgment and memory. <i>Understanding and Analyzing Emotion</i> *Ability to label emotions, including complex emotions and simultaneous feelings. *Ability to understand relationships associated with shifts of emotion. <i>Reflective Regulation of Emotion</i> *Ability to stay open to feelings. *Ability to monitor and regulate emotions reflectively to promote emotional and intellectual growth (after Mayer & Salovey, 1997, p. 11).	<i>Intrapersonal Skills:</i> *Emotional self-awareness, *Assertiveness, *Self-Regard *Self-Actualization, *Independence. <i>Interpersonal Skills:</i> *Interpersonal relationships, *Social responsibility, *Empathy. <i>Adaptability Scales:</i> *Problem solving, *Reality testing, *Flexibility. <i>Stress-Management Scales:</i> *Stress tolerance, *Impulse control. <i>General Mood:</i> *Happiness, *Optimism.	<i>Knowing One's Emotions</i> *Recognizing a feeling <i>as it happens</i> . *Monitoring feelings from moment to moment. <i>Management Emotions</i> *Handling feelings so they are appropriate. *Ability to soothe oneself. *Ability to shake off rampant anxiety, gloom, or irritability. <i>Motivating Oneself</i> *Marshalling emotions in the service of a goal. *Delaying gratification and stifling impulsiveness. *Being able to get into the "flow" state. <i>Recognizing Emotions in Others</i> *Empathic awareness. *Attunement to what others need or want. <i>Handling Relationships</i> *Skill in managing emotions in others. *Interacting smoothly with others
Model Type	Model Type	Model Type
Ability	Mixed	Mixed

### 1.3 Variables Affecting Emotional Intelligence:

#### 2.3.1 Age and Emotional Intelligence:

The Lebanese society has a particular effect on the culture of banks and the weight placed on age. Age is correlated with experience and the degree of business wisdom and skills acquired. The dilemma arises when comparing the advantages of hiring new young employees who are in touch with the technological advancements, zeal to prove themselves in the field and fresh academic background pertaining to the banking field as opposed to older and more experienced professionals. The Lebanese HR managers tend to highly esteem professionals with seniority and experience.

Many believe that older individuals do have a higher level of emotional intelligence since they tend to be wiser and more skilled and patient. The reason behind this hypothesis is due to the fact that IQ levels are fixed; EI levels on the other hand are more flexible and tend to increase as the individual is subjected to life experiences. Mayer et al. (2000) stated that the level of emotional intelligence increases with age and experience since it is qualified as an ability and not a personality trait. Bar-On (2000) stated that older individuals tend to score higher on emotional intelligence since he believes that emotional intelligence is taught and improved through life experiences. Rodrigues (2013) used the ESCI and concluded that the level of emotional intelligence of leaders aging from 24 to 45 is constantly increasing; however, after it reaches its peak at the age of 45 it starts to decline in the fifth and sixth decade of life as a result of the decline of self-awareness competencies of older leaders.

However, not all researchers do agree that there is a positive correlation between age and the level of emotional intelligence. Bii et al. (2012) conducted a research to correlate the age of the manager and the level of emotional intelligence and found that it was statistically insignificant. There is a clear debate on whether age affects the level of emotional intelligence or not.

#### *2.3.2 Managerial Position and Emotional Intelligence:*

Many researchers debate that as an individual is placed in a higher managerial position, he/she is supposed to have higher emotional intelligence. Chen et al. (1998), Goleman (1998a) and Bennis (2001) agree on this theory as they believe that emotional intelligence is the key to success for organizational leaders. Van Der Zee (2004) conducted a study to check whether this assumption is true. Results were that top managers did score higher than reference groups tested. Fatt (2002) also supports the results of Van Der Zee as he stated that as individuals progress in their organization, they gain and improve their emotional intelligence. Goleman (1998b) stated that as individuals get promoted to higher positions in their organization, they are more likely to have a higher level of emotional intelligence and acquire more competencies on the way. Further research is suggested to check whether there is a significant link between emotional intelligence and managerial positions.

#### *2.3.3 Gender and Emotional Intelligence:*

The skills and abilities that pertain to each gender have been attributed to natural selection, genetics, society, access to education and the perspectives through which each gender sees and approaches dilemmas. One of these comparisons is that pertaining to emotional intelligence. Starting with Mandell and Pherwani (2003), they found that there is a difference in emotional intelligence between males and females as females scored higher, suggesting that females are better in controlling their feelings and emotions and managing others emotions better than males. Bar-On (1997b) stated



that “females are more aware of emotions, demonstrated more empathy and relate better interpersonally while men are more adept at managing and regulating emotions”.

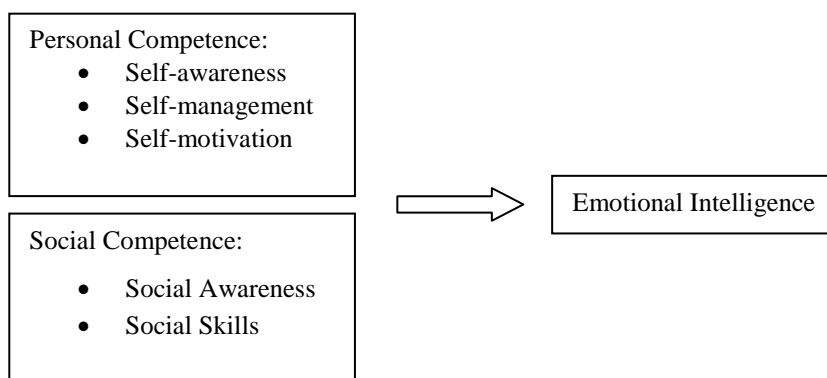
Khalili (2011) studied the difference in emotional intelligence competencies scores between males and females. Khalili used the “Goleman’s Refinement Model of EI” where he delved deeper into the emotional intelligence competencies (both personal and social) and assessed them. Results showed that there are no significant differences between genders when scoring on self awareness, self management and overall emotional intelligence. However, there is a difference in relationship management whereby men scored higher (with a mean of 63.78) than women (with a mean of 49.22).

To conclude, human resources department must increase their training in order to develop and improve the level of emotional intelligence of employees and focus on the trainings that specifically contemplate on developing relationship management competencies.

#### *2.4 Emotional Intelligence: Insights from the Lebanese context*

Jamali, Sidani and Abu-Zaki (2008) studied the variations in emotional intelligence competency scores in Lebanon. These competencies are: self-awareness, self-regulation, self-motivation, social awareness and social skills. Cherniss (2001) stated that importance of cognitive intelligence is “overstated” as well as being considered a major predictor of work success. However, Mandell and Pherwani (2003) agree that the importance of emotional intelligence that was shown in the fields of business and psychology has highlighted a fact that intelligence quotient can be no longer used as the major predictor of work success. Fatt and Howe (2003) supported this fact by stating that the performance outcomes of individual’s performance can no longer be measured by the traditional intelligence quotient tools.

To summarize, the personal and social competencies building blocks for emotional intelligence as adapted from Bar-On and Parker (2000) and Kunnanatt (2004) are charted hereafter:



*Fig. 1: personal and social competencies for emotional intelligence*

Jamali, Sidani and Abu-Zaki (2008) stated the following results after conducting their research using the Emotional Quotient Inventory (EQ-I) technique to measure emotional intelligence and a final sample of 225 individuals working in different sectors such as banks, publishing organizations,

internet companies, auditing firms, universities, government organizations, and other sectors from Beirut, Lebanon. Results showed that the entire sample scored moderate levels of emotional intelligence and that males scored higher on self-regulation and self-motivation whereas females scored higher on self-awareness, empathy and social skills. There was no significant change in EI scores between genders except for self-regulation where males scored higher. Senior managers scored higher than staff or lower-level employees on self-awareness, self-regulation and self-motivation whereas middle managers scored lower than senior managers and staff on empathy. Differences in educational background, as there are three categories: high school, college and graduate degree, had no significance in emotional intelligence scores when testing for self-awareness, self-regulation, self-motivation, empathy and social skills. Moreover, difference in age had no significance in emotional intelligence score, except for self-motivation where the group ranging from 35 to 44 scored the highest and the group aging under 25 scored the lowest. Carrying emotional intelligence assessments at work can assist employees to detect their strengths and areas of development, and by implementing this technique in a safe and supportive environment, it can trigger and improve self-motivation.

Moreover, a research was conducted by Hejase, Al-Sayed, Haddad and Hamdar in 2012 to explore how emotional intelligence is applied in Lebanon. In the first part of their study, researchers highlighted the importance of emotional intelligence in business through existing frameworks. In order to explore emotional intelligence applications in Lebanon, both industry and service sectors were targeted. The sample included employees and managers of different backgrounds and gender. The final sample size was 110 individuals, and ten managers divided evenly between the service and industry sector. Results showed no significant distribution difference between genders in both sectors. To summarize the awareness of emotional intelligence: 2/3 of the respondents in both sector are not fully aware of the concept of emotional intelligence and have no deep knowledge on this concept. When identifying the sources that exposed emotional intelligence to the respondents in both sectors, none stated that they learned about it from their work setting. The sources were either from their education, media, or other mixed sources. The majority in both sectors agreed that EI has positive effects on an organization's profit and disagreed with the statement that adopting EI principles incurs a lot of costs in such a way that there is no point in investing in it. They also agreed that EI programs result in favourable results in employees' retention and disagreed that employees are required to work individually and not in teams when practicing EI principles.

### *2.9 Identified Gaps:*

Emotional intelligence as any concept has gaps to be covered. Leung (2005) was one of the researchers who suggested that more research linking cross-cultural issues and EI are needed. Jamali,

Sidani and Abu-Zaki (2008) stated that there is an interest to uncover culture-specific factors that affects EI in Lebanese organizational settings. It will be of benefit to link EI and organizational outcomes in any way. Cross-cultural research is still limited when compared to organizational research. Jamali, Sidani and Abu-Zaki (2008) suggest finding culturally-related strength and weaknesses when studying emotional intelligence and study how culture influences the sub-competencies of EI which is the first identified gap.

The second identified gap was stated by Hejase et al. (2012) where they added that although EI is perceived to be effective in organizations and will help in creating better outcomes, the majority of people are not willing to engage emotions and emotional intelligence in the workplace since they believe that emotions in business will lead to irrationality and unexplained behaviours and decisions. However, studies conducted by Jamali, Sidani and Abu-Zaki (2008) and Suliman and Al-Shaikh (2007) within Middle Eastern countries, including Lebanon, suggest that emotions cannot be separated from a person when conducting business and is part of the individuals' personality whether the organization accepts that or not. Many are still caught with the traditional saying of "leaving emotions at home before coming to the job"; however, as stated before, emotions cannot be isolated from an individuals' personality when at work.

Hejase et al. (2012) also pointed a third identified gap as they suggested to study cross-multiple relationships between different concepts such as EI and other concept linked to management for example to discover a possible theoretical link that businesses can benefit from as they implement EI in their organizations.

## **METHODOLOGY:**

The research aims and objectives are set to cover the gaps found in the literature review and interviews that were conducted with three Lebanese branch managers and one regional bank manager in retail banking. For this end, information was collected from primary and secondary data sources. Gaps have shown the need to create a new model of emotional intelligence that fits the Lebanese retail banking sector. This process utilized an inductive reasoning since the paper is using existing emotional intelligence models/theories to create a new model. Representative sampling was chosen to collect valuable and related data to the subject of study.

The fact that a phenomenological paradigm is utilized indicates that the methodology that fits this position is the qualitative method. The research method is a case study and the technique used is interviewing the representative sample chosen. The interview had semi-structured open-ended questions. Having in-depth interviews helps in collecting more valuable data, understanding the situation realistically and maybe uncovering some hidden gaps that are not stated in existing research

papers. This technique gives the interviewer the advantage of being able to remodel and restructure the questions when needed and also gives the interviewee the ability to better understand the aim of the study by familiarizing the latter with the concept of emotional intelligence.

The aim of a qualitative study is not to generalize results, but rather to research a case study that is focused on studying EI in the Lebanese retail banking sector. Therefore, there is no need for a large number of interviewees. After conducting the interviews and recording every interview, which took an approximate of an hour and a half, a pattern was constructed manually and data was analyzed by translating the interviewees' answers from Arabic and French to English since most banks in Lebanon use the French language at work. Gaps found through the literature review and interviews are used to create the preliminary EI model that fits the Lebanese retail banking sector.

The model that will be created in this paper is provisional for a final model of emotional intelligence for the Lebanese retail banking sector in a further empirical research. This model cannot be used and implemented at this stage rather than highlighting the variables that are highly suggested to be relevant based on existing research in this field and some preliminary interviews with banks managers. Additional interviews are required since four interviews were conducted with bank managers and the other four interviews were conducted with scholars to help in constructing a scientific questionnaire for the interviews and create a preliminary model of emotional intelligence for the Lebanese retail banking sector; thus, it is expected to find additional significant variables in a more advanced level. The variables of this preliminary model will be used to create the final model that is more practical and can be implemented by the Lebanese retail banking sector. Further research will focus on conducting a number of in-depth interviews with Lebanese retail banking clients to show which of the variables of this preliminary model are of significance and which cultural-based variables can be added to improve the final model and customize it to the Lebanese market.

The following are the questions asked:

1. How do you perceive the Lebanese Retail Banking sector and does it affect the Lebanese Economy?
2. Is there any gap in the Marketing or Management Department at the Lebanese Retail Banking sector?
3. Is there enough knowledge about Emotional Intelligence? How often trainings are held which tackle this concept?
4. Is the Lebanese culture unique? If yes, how is it so? And how does the Lebanese culture affects Emotional Intelligence?
5. Is there a need for a customized Emotional Intelligence Model that fits the Lebanese Retail Banking sector?

## PRELIMINARY QUALITATIVE RESEARCH FINDINGS:

Lebanese retail bank managers confirmed that there is a significant link between retail banks performance and the Lebanese economy through providing the clients with different types of loans to energize the market through investments. Although Lebanon is in an unstable political situation the banks are still thriving. Due to the crisis that happened in Iraq, Egypt, Syria and Turkey, many large-size Lebanese banks have closed their branches in these countries and start focusing more on Lebanon and thus the competition is now higher than ever. Lebanese retail banks are pushed to perform better and one way is through training their employees to master all the details needed. Bank managers agree that EI is of significance and having trainings on this issue will help them grow and thrive in the market since they will gain a competitive advantage since there is still not enough awareness of concept in Lebanon. However, even by knowing this fact, banks still prefer investing their trainings on technical know-how and up-to-date products and services. Large-sized banks are able to conduct personal-oriented trainings more than medium and small-sized banks because of their budgeting system. Banks prioritize their trainings and thus the headquarters should note the EI of high importance and is capable of taking their performance to the next level. The Lebanese culture is unique, and it needs a customized model of EI based on the culture. Lebanese people are known to be multi-lingual, open, highly care about personal relationships and significantly affected by nepotism. Not all clients are treated the same, some requires the bank to break some rules because of their political and/or social power. Nepotism affects the Lebanese culture on a day-to-day base.

### *Relating the Interviews with the Established Models:*

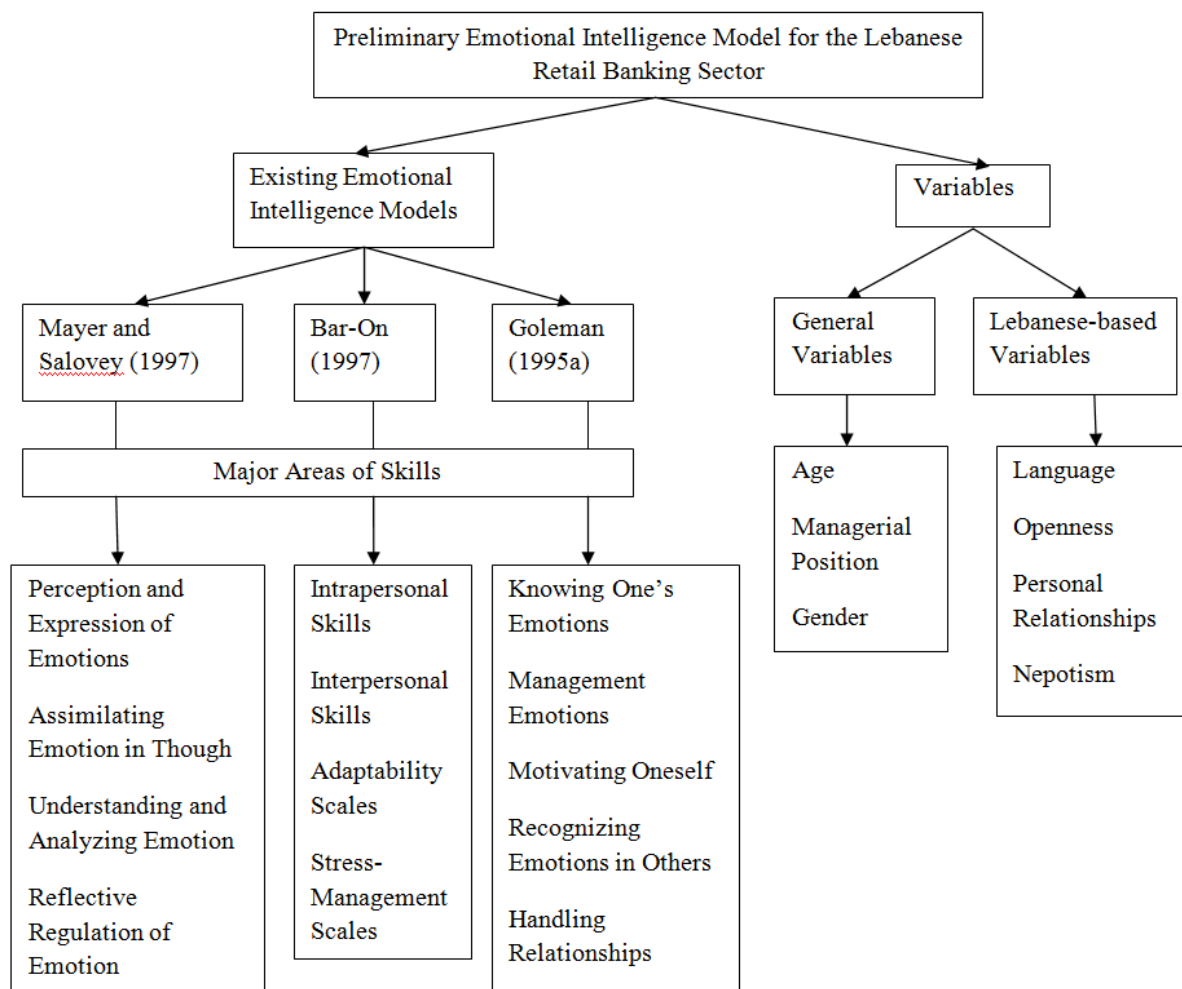
The interviews with the bank managers go hand-in-hand with the established EI models and overall analysis and orient us on what aspects of those established models should be given weight relative to the Lebanese example. In other words, a preliminary Lebanese Model that is customized to the Lebanese retail banking sector can be constructed in an inductive manner based on a multi-disciplinary approach. The emotional aspect of the Mayer and Salovey ability model can be utilized to target the 'pathos' and sentiments of the Lebanese clients who usually tend to feel more comfortable when they have a sentimental connection with their bank. The ability-based model of emotional intelligence describes the abilities to perceive, use, understand and manage emotions. By this token, showing clients joy towards their happy life events, compassion and sympathy regarding their sad occasions, moral support during times of weakness as well as malleability and emotional astuteness when dealing with difficult clients should be all components of the emotional chapter of the Lebanese EI Model. Furthermore, the weight given to the process utilized in implementing EI which was delineated in the Bar-On Model would be a suitable backbone and mesh on which our customized model can be built on. Bar-On and Goleman's models are mixed models, meaning they combine

emotional intelligence qualities with other personality traits. Goleman's Model which focuses on an individual's capabilities and personality in applying his/her consistent affects at work would be a great asset which can be utilized to tackle dilemmas at work and follow a suitable approach with clients. In essence, employees would be more aware of their own sentiments and emotions and more importantly would be aware of what aspects of those emotions should be expressed or hidden as well as comprehend the emotional status of their respective clients and absorb/tackle any feelings of discomfort, anxiety or distrust.

## **CONCEPTUAL DEVELOPMENT:**

Following a search of literature and based on the interviews conducted, a new preliminary model of emotional intelligence that fits the Lebanese retail banking sector is needed. This new preliminary model will be divided into two sections: skills and variables. Common existing models such as Mayer and Salovey (1997), Bar-On (1997) and Goleman (1995a) are used to create this preliminary model. Each of these models has major areas of skills which will be all included since four interviews from the bank's point of view are not enough to eliminate any of these skills; however, in an advanced stage, interviews with retail banks' clients will be conducted which would focus on the skills of emotional intelligence that are needed. Therefore, only the skills related to the Lebanese retail banking will be included. Having said that and visualized a framework of the skills that should be included in this novel model, we move to the pertinent variables that need to be considered. These variables are divided into general and Lebanese-based variables. The general variables are chosen based on the literature review and are considered to have a direct link with emotional intelligence. However, the Lebanese-based variables are deducted from the four interviews with the bank managers. Having future interviews projected in the extrapolated study, additional variables are expected to be included.

*Preliminary Emotional Intelligence Model for the Lebanese Retail Banking Sector*



## CONCLUSIONS, IMPLICATIONS AND FURTHER RESEARCH:

The Lebanese retail banking sector plays a crucial role in the Lebanese economy through providing clients with loans of different types to invest in the Lebanese market and generate profits. Enhancing the performance of this sector will directly or indirectly lead to an improved economy. The awareness and implementation of emotional intelligence in organizations results in a significant overall performance improvement through generating more sales and profits as well as satisfying

clients and customers. As shown above, there are several models that exhibit the skills of emotional intelligence; however, the most common existing models are that of Mayer and Salovey, Bar-On and Goleman, were incorporated in the build-up of the preliminary model of emotional intelligence that fits the Lebanese retail banking sector. Following a search of literature, it was evident that age, gender and managerial position are directly and indirectly linked with emotional intelligence. This significant link between these variables and emotional intelligence will be further delineated and examined in a future extrapolated research study that will be conducted as continuation of this study. Based on four interviews with Lebanese retail bank managers, Lebanese-based variables were highlighted, and in turn this showed the uniqueness of the Lebanese culture and how it differs from other cultures. The model created is a preliminary one and not the final emotional intelligence model for the Lebanese retail banks. It is a general framework to start with when the second phase of this paper would be constructed. In this second phase, an approximate of 40 interviews will be conducted; however, those interviews will be conducted with Lebanese retail banks' clients and not with banks' managers. Consequently, it is expected to determine the contribution of each skill to the Lebanese retail banking sector regardless of which model they belong to. As for the variables, more Lebanese-based variables are expected to be added to the final model whereas the general variables will be tested to see if there is a link between them and EI in the Lebanese context.

Four interviews were conducted which shed the light on a number of interesting variables and showed how existing models are theoretically correlated with the Lebanese culture in addition to four interviews with scholars that helped in the construction of a scientific questionnaire and development of the preliminary emotional intelligence model for the Lebanese retail banking sector. However, additional interviews with bank managers might have revealed more Lebanese-based variables. In a future research, and after creating a final model of emotional intelligence for the Lebanese retail banking sector, there will be a study on how emotional intelligence and relationship marketing are related, which will be of high interest for corporations which are aiming at increasing their profits and enhancing their marketing departments.

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## THE IMPORTANCE OF WORKFORCE DURING FINANCIAL CRISIS SITUATIONS: THE CASE OF THE SPANISH HOSPITALITY INDUSTRY

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### ABSTRACT

As part of the recent global financial crisis, Europe has experienced a double dip recession, meaning that the effects of the crisis have been longer and more severe. Tourism, specifically the hospitality industry, is important for the economy of Southern European countries, where the crisis has been the worst. Therefore, to better manage the crisis impacts and anticipate future impacts, it is crucial to identify the contributing factors.

Here, we examine the performance of a sample of 7,293 Spanish hospitality companies based on data from 2008-2011. A multivariate regression analysis was conducted researching workforce revenue and cost variables. Results show the importance of investments in workforce qualifications. These findings help the hospitality industry to understand the relevant drivers and coping strategies associated with the hospitality industry during a financial crisis.

**Keywords:** *downturn performance, workforce performance, downturn direct effect, financial crisis*

A larger version of this paper is currently under review at Euromed Journal of Business.

### INTRODUCTION

Current economic trends suggest that the 2007 global economic downturn is now ended (Bronner and Hoog, 2014). Varum and Rocha (2013), among others, have asserted that economic downturns negatively affect firm growth, both during and immediately following a crisis (Okumus and Karamustafa, 2005). Analyses of previous crises have found that both internal and external factors could be key issues in company performance during a financial crisis. The tourism industry is typically one of the most damaged during a financial crisis for a number of reasons. First, tourism is affected by reduction and changes in traveller spending (Cracolici et al., 2008; Smeral, 2009). Second, reduction in credit access and lower return of actives speed up financial problems (Fahlenbrach et al.,

2012). Third, financial crisis recovery may take a long time and can contribute to tourists favouring alternative destinations (de Sausmarez, 2013). Finally, domestic tourism falls sharply (Chen and Yeh, 2012), with consumers concentrating on indispensable consumer products such as food and clothing (Smeral, 2009). Thus, fierce competition will normally occur within a destination and between alternative destinations (Cracolici et al., 2008). As a consequence, in the case of tourism, financial crises could be considered continuous due to the long lag period before the full extent of the damage appears (de Sausmarez, 2013 cited Siomkos, 1992).

For the aforementioned reasons, understanding the performance of tourism companies during a financial crisis is crucial as it provides a predictor of future performance in subsequent crises (Fahlenbranch et al., 2012). On the other hand, tourism is a human-intensive industry, and human resources are basic to service quality (Baum, 2015). However, during times of crisis, companies reduce employment to cut expenses, with a result of a likely deterioration in service (Alonso-Almeida and Bremser, 2013) and loss of competitiveness (Cracolici et al., 2008; Ridderstaat et al., 2014). It is therefore important to understand how human factors help hotels face financial crises with the aim of managing crisis impacts properly and preparing for future crises. Nevertheless, limited research involving individual performance and influence factors of companies during this latest crisis has been reported.

To address this, we aim to identify the relevant factors for growth during times of crisis. Although people are frequently called the most valuable asset for tourism companies, the role of human resources in tourism companies in times of crisis remains underexplored (Baum, 2015). Thus, delving into workforce cost and productivity influence over company performance during a downturn is relevant to provide help to manage hotels during this difficult period.

To our knowledge, this report is the first attempt to specifically study human resource performance and growth of hotels during the latest financial crisis. While previous crises have been short, the current crisis in Europe has felt like a "double crisis" (the financial and euro crisis). For that reason, panel data are used with a total of four years of analysis over the period of the double dip recession (2008 to 2011) and when the financial crisis was hardest (Ridderstaat et al., 2014). Therefore, the novel approach of this study should help reveal the relevant drivers and success factors for the tourist industry during turbulent times.

To achieve these aims, the next section of this paper discusses the theoretical arguments regarding the model proposed. The following section describes the empirical design of the study. Sections 4 and 5 present a quantitative analysis, continuing with the study findings and discussion. The final section offers several conclusions drawn from the research and observed business practices.

## LITERATURE BACKGROUND

### Financial crisis and workforce in hospitality: Impact on growth performance

Competitive operational performance has been related to good performance during downturns (Claessens et al., 2012). The authors noted that lower internal costs can provide a competitive advantage during a fall in demand. In line with this reasoning, Kunc and Bhandari (2011) have also asserted that during financial crises, companies seek cost efficiencies. Given that workforce costs used to be the main expense in human-intensive industries such as tourism, to address the impacts of a global economic recession, hotels used to maximize their benefits with limited resources through correct resource allocation and operation strategies. Moreover, Flouris and Walker (2005) observed that operational flexibility was crucial to achieve good performance during financial crises. Thus, companies with operational capabilities could be better able to cope with turbulent times (Lee et al., 2009). Among others, workforces with more distinctive skills and scalability could be key for growth during this period (Nijssen and Paauwe, 2012; Baum, 2015).

Chen and Yeh (2012) found that hotels in Taiwan with higher labour productivity (calculated by the total operation revenue against number of employees) were more likely to survive under financial crisis situations. Hjalager (2010) suggested that innovative tourist companies are able to face turbulent environments, although it could cause an increase of cost in the short term due to an increase in employee costs and revenues by employees. In fact, Komninou et al. (2014) asserted that specialization and value added to services produced significant variations in productivity measures. Thus, a more specialized workforce could increase the cost of employees but also improve performance (Baum, 2015). Therefore, the following hypotheses are proposed:

H1a. Workforce cost is directly and positively related to hotel growth during financial crises.

H1b. Workforce productivity is directly and positively related to hotel growth during financial crises.

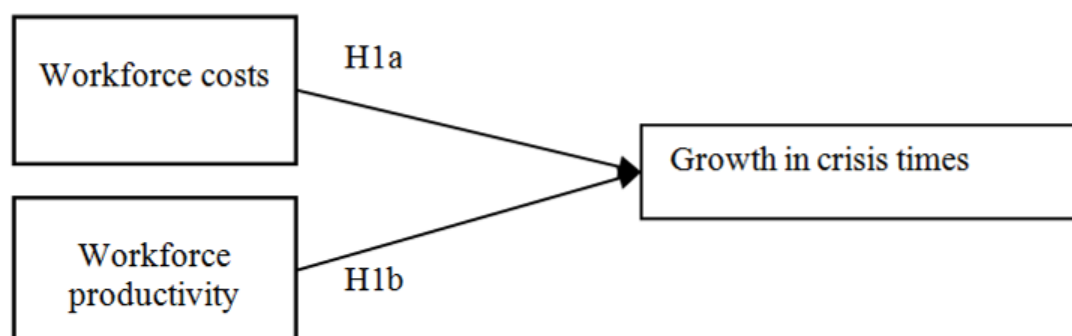


Figure 1 summarizes the proposed study model.

## METHODOLOGY

### Sample and data collection

The data used to conduct the study were taken from the Iberian Balance Sheet Analysis System (SABI), which contains financial information on Spanish companies from 1996 onward. Yearly information was extracted for 2008-2011. To ensure that the financial data used dated back to company inception, only companies that had been running within the 2008-2011 timeframe were included. In total, information on 7,293 hospitality companies was gathered. Table 1 shows some descriptive data of the sample in 2011. It can be observed that the sample is composed mainly of independent micro (75.1%) and small hotels (62%) with less than 20 years in the business (72.5%).

	Age			Size			Group	
	N	%		N	%		N	%
0-5 years	563	7.7	1-10 employees	3471	47.6	No	5478	75.1
6-10 years	1755	24.1	11-20 employees	1050	14.4	Yes	1815	24.9
11-20 years	2969	40.7	21-100 employees	1389	19.05			
21-50 years	1947	26.7	101-250 employees	194	2.66			
51-100 years	55	.8	> 250 employees	85	1.17			
>100 years	4	.1	N/A	1104	15.14			
Total	7.293	100	Total	7.293	100	Total	7.293	100

Table 1. Descriptive statistics of the sample

The hotel industry was selected for two reasons. First, tourism is extremely important for Spain and is the largest industry in the country, accounting for 11.9% of its gross domestic product (GDP) and employing over 2 million people, which is about 15% of the total workforce in the country (Exceltur, 2013). Second, Spain is the fourth most popular worldwide destination for foreign travellers (e.g., during 2014, 64.99 million foreign tourists arrived to Spain) and second by tourist income (Frontur, 2015).

### Research methods

The dependent variable used to test the hypotheses was company growth. Company growth was the ratio of year-to-year logarithmic variations in the number of employees (GEMPL) (e.g., Claessens et al., 2002; Clarke et al., 2012; Alonso-Almeida, 2013). The rate of variation was defined as:

$$TVX_{i,t} = r(X_{i,t}) - r(X_{i,t-1})$$

where  $X_{i,t}$  denotes company changes at time  $t$ .

In addition, two types of independent variables (see Table 2) were used to represent internal drivers. Revenue per employee (REVEMP) and cost of employee (COSTEMP) were extracted from the SABI database to analyse workforce productivity and workforce cost respectively. Next, the model tested is presented:

$$GEMPL = \beta_0 + \beta_1 * REVEMP + \beta_2 * COSTEMP$$

Variable	Measure	Adapted from
INTERNAL variables		
Workforce		
REVEMP	Numerical continuous variable. Mean of operational revenue by employees during the period 2008-2011	Anderson et al. (2000);
COSTEMP	Numerical continuous variable. Mean of cost of employees during the period 2008-2011	Anderson et al. (2000); Pestana (2010)

*Table 2. Independent variable descriptions*

## RESULTS

An initial descriptive analysis was performed, and values from independent variables are shown in Table 3.

Variable	N	Min / Max	Mean	Standard deviation
Dependent variable				
GEMPL	5,720	-1 / 101		
Independent variables				
REVEMP	5,490	3.87 / 15,857.82	89.86	265.82
COSTEMP	5,532	2.47 / 920.76	25.58	25.23

Table 3. Descriptive analysis of the independent variables

With the aim of testing the hypotheses, a multivariate regression analysis was performed. In the regression, workforce costs obtained a value of 0.510 which is highly significant whereas workforce productivity turned out to be non-significant (value 0.019) The goodness-of-fit of the model is greater than 0.25. Therefore, we can consider that our model has a high explanatory power.

## DISCUSSION OF RESULTS

The statistical analyses validate most of the model proposed in the previous sections. Individual hypotheses are contrasted here, and the findings are explained. These findings shed light on how hotels can manage internal factors to face financial crisis situations and outline approaches for handling the most relevant external factors.

Hypothesis H1a is significant and is therefore accepted. This finding confirms a stronger influence from human resources on competitive operational performance and growth during crisis. Thus, it suggested that hotels should deploy a strategy based on adding value to customers. These types of strategies usually involve some investments in training or additional employee expenses to differentiate products or services with an associated employee cost increase (Benur and Bramwell, 2015).

This finding also stressed the idea that the workforce is challenging (Baum, 2015). Thus, higher salaries seem to be associated with higher hotel performance. A possible explanation for this is that

more satisfied employees are more compliant with hotel and quality service and, as a consequence, directly influence hotel performance (Alonso-Almeida et al., 2012).

Contrary to expectations, hypothesis H1b is not significant and therefore rejected. Two reasons could explain this. Hotels could experience difficulties increasing revenue per employee due to customers having reduced holiday time and/or expenses (Smeral, 2009). Moreover, revenue per employee can also increase when the total number of employees decreases due to lay-offs or dismissals providing immediate cost savings in a downturn. This strategy has been considered to be risky and short-sighted because it damages long-term competitive advantage (Alonso-Almeida and Bremser, 2013).

## CONCLUSIONS

Evidence of a number of pertinent conclusions for academics, managerial practice and policy makers is provided for the hospitality industry during a financial crisis.

First, Kunc and Bhandari (2011) asserted that the main characteristics of the most recent financial crisis were reductions and changes to consumer spending, organizations seeking cost efficiencies, increase in unemployment, and lower return on investments. Therefore, appropriate balancing of human resource competitiveness with careful investments in training can help hotels face crises under falls in demand. Using this approach, hotels can avoid the difficulties caused by shortcomings in capabilities and a greater dependence on so-called big customers (e.g., tour operators and suppliers).

Second, operational efficiency is vital to competitiveness, and it is vital that hotels improve their decision-making effectiveness regarding their production activities and deployment of scarce or costly resources (Pestana, 2005). Therefore, a downturn situation could provide an opportunity for hotels to strengthen capabilities by means of implementing structural changes and reinforcing workforce skills (Smeral, 2009). Operation efficiency is crucial for profitability in both good times and downturns. For this reason, hotels should make the most of optimizing internal resources in good economic times, therefore anticipating and preparing for economic downturns.

Thus, these findings provide a useful framework for managerial practice during turbulent financial times and highlight the importance of a dynamic business strategy focusing on highly qualified human resources. In the last decade, the hospitality industry has been working in quality service, improving infrastructure and promoting hotel positioning. Although these strategies are necessary, they do not guarantee survival and growth in turbulent times. Copying newly founded hotels introducing creative business strategies can provide valuable insights for elder companies.

Finally, from the recommendations by Ridderstaat et al. (2014), policy makers should invest more resources in tourism promotion and other tourism-related activities such as communication,

infrastructure and tourism entrepreneurship in order to increase the number of innovative, new hotels. Our findings suggest that a focus on innovation and employee qualification can improve a hotel's crisis resistance significantly.

In addition, researchers could further investigate the influence of employee costs, analysing their composition and the way money is spent in order to detect where costs are best allocated to increase performance even further.

In summary, this study contributes to the literature by providing a firm-level analysis (rather than an industry-level analysis) and offers an almost complete picture of a specific geographical area. Future research should address the performance of other tourism industries in times of crisis, such as restaurants and travel agencies, and the relationships between performances in different tourism industries. Regarding the limitations of the paper, the main limitation is associated with the use of panel data from an official database. These include problems in the design, data collection, and data management of panel surveys. A minor limitation is basing the paper on solely on tourism. More conclusions could be drawn by comparing tourism to other sectors.

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## TRANSFORMATIONAL LEADERSHIP AND CREATIVITY SUSTAINABILITY IN THE ORGANIZATION

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### ABSTRACT

The aim of this exploratory research is to shed light on the roles of Transformational leadership (TL) and its impact in motivating creativity of companies in three sectors of the economy in the United Arab Emirates (UAE) industries. The focus of this study is to examine TL behavior that enhances creativity process in their organizations.

After studying a sample of 125 companies in three sectors (namely manufacturing, services, and agricultural sectors) representing a 53 percent of the total companies in Abu Dhabi Emirate, Only 115 enterprises returned their forms and these forms were used in the data analysis representing a 92 percent response rate which was acceptable statistically.

It was concluded that there were a positive concerns for TL in their companies' intent to motivate employees' creativity but important effect in five variables : Employees' commitment, Flexibility at work, Employees' Experience & knowledge, Diversity at work, Employees' trust, were found to be an important motivator factors of encouraging creativity in their businesses. Also, TL is crucial for affecting and encouraging creativity on individual through psychological empowerment, and organizational levels positively through its capability to create new knowledge and creative processes that are difficult to imitate.

**Keywords:** *Creativity, Sustainability, Transformational Leadership, UAE*

### INTRODUCTION

In any organization the leaders' behavior in their organization is to enhance drive their employees' creativity, encouraging, enhancing and fostering them in their exploratory thinking and challenges. In this respect leaders are motivating, providing, and encouraging their employees in generalizing new ideas to achieve the organizations' mission and visions. As creativity is driving the success of the organization TL is the catalyst of organizational creativity (Ahmad et al., 2010). Since the employees' creativity and initiatives is the basis for any profitability of their organization, thus understanding the

form of leadership and its effect on such employees' initiatives is crucial. Irrespective to the type of leadership, TL meaning which is convenient to our research is, the workplace, encouragement, accepting risk management, challenge and inspirations (Lizano, 2015). Thus TL leadership will maximize their employees' expectations, and stimulating their intellectual capabilities.

Creating and encouraging creativity environment or as a culture within the organization by transformational leader, employees is likely to respond to any challenge through exhibiting more creativity and self-efficacy due to such support of their leaders. Such environment supporting by leaders' emotional attachment will motivating them for more initiatives, ideas, and solutions in their tasks (Packard, & Jones, 2015). Such leader' charisma, encouraging inspiration of creativity, individuals' behavior and stimulating employees' intellectual capabilities, are mainly behind the transformational leaders' success, and raising expectations in their organizations (Burns, 1978).

Since the introduction of the TL theory by Burns in 1978, empowering employees is still important to regard the creativity concept as an ongoing process in businesses today, and as an attempt to raise employees' personal values and their performance expectations. Such understanding is compatible with our research explanation that creativity is the production of ideas by the employees benefiting the organization, along with TL in creating creative environment (Kaiser, McGinnis, & Overfield, (2012). Therefore, it is the mechanisms underlying the effects of TL on creativity concept in the work environment.

Creating knowledge within the organization is regarded as valuable sources for creative processes that are difficult to imitate and for its success. In this respect integration between TL and different types of knowledge is needed. Going beyond the organizations' boundaries is important for the organizational survival. In other words, an internal capability is not enough for creating an environment of creativity. In fact its sustainability is vulnerable to the challenges, as the organization living in a continuous changing environment (Birasnav, Rangnekar, & Dalpati, 2011).

Empowering employees' within the organization by their leaders is crucial for the creativity process, as new ideas or inventions may be stems from one individual or many employees in accomplishing his/their daily tasks. Invention new ideas or tasks may arise from the lower or the middle levels in different department of the organization. It is accepted to say that employees have different capabilities and thinking and it is the nature of the human being. Such difference in their capability and knowledge is the ground floor for their innovation and creativity as become visible. Empowering the employees will result in increasing their confidence and contributions, doing the job well, trust in their leaders, enhancing motivation for creativity and achieving better performance. This is a valuable aspect, that the leaders should concerns' about it (Lengnick-Hall, Beck, & Lengnick-Hall, (2011). Therefore, when employees' feeling is that their organizations values their contribution, their

commitments and loyalty will increase. This will enhance the sharing of knowledge between them, and their leaders will improve the network for better transformation of information or knowledge. When creativity expectations is the result of understanding between employees and their organization, transformation and sharing knowledge between them, and improvement in the network of communication, then one may expect that leadership influencer is essential and significant (Kesting, & Ulhøi, 2010).

In general and from the above discussion one may concludes that factors motivating creativity are: Employees' commitment, Working with colleagues, Working under pressure, Flexibility at work, Employees' Experience & knowledge, Diversity at work, Efficiency & efficacy, Employees' trust, Efficiency & efficacy, Friendly environment. Transformational leadership may enhancing employees' creativity through the listening to the employees' new ideas with openness, the integration of knowledge in a creative way , challenging with each other's ideas, and group diversification.

From the above discussion one may conclude that, leadership is a fundamental asset for the organization to be competitive, as they are directing employees' intent, technology, the organization's strategy, in an effective way for implementing and encouraging creativity for development and success.

Influence of TL from employees and organizational perspectives becomes important and influencing performances of both. Even though such influence in organization development processes have received little attention, in the industry in the UAE. In this research the researchers will highlighted on which factors existed in the companies in the sample which motivating creativity and the role of the leadership/management in this context. The purpose of the present research is to understand the influences of TL on their employees' creativity in a real setting in their organizations. Also this research is a trial to fill the gap concerning the TL in the UAE industries.

## **TRANSFORMATIONAL LEADERSHIP AND CREATIVITY SUPPORT**

In business creativity is necessary and an important factors of many behind the innovation and the success of the organization. Such understanding play a pivotal role is such success and in building effectiveness and the competitive advantage of organizations. But the continuous changes in the business environment need a new ways in the long run for managing the organization and coping with such changes which is necessary for innovative ways in managing the business. Thus, creativity for many organizations is regarded as an important goal for having the potential influence on the organizational performance. Those leaders who have the skills and knowledge for encouraging their employees to be creative are not prone and far from taking their organizations to the stage of restructuring or downsizing in an attempt to solve problems and work to avert the need for such

circumstances (Agbor, 2008). The creativity concept in the organization is not emerging suddenly. Such understanding requires a direction and power by leaders to harness the implementation of such concept/understanding within their organization. What required from those leaders is to control efforts, creating a creativity culture, and transform the creativity process effectively and efficiently to accomplishment. Looking for a competitive advantages, leadership regarded culture, strategy, inspire employees, technology and the required sustainability in the long term, as vital aspects towards the success of the organization, and such leadership becomes a sources and crucial for a compatibility environment. Thus, organizations have to proceed of employing the right leadership whom are interested in creativity at the required place. Otherwise they were stifling the creativity process in their organization. With leadership authority, responsibility and the capabilities the organization is able to lead the creativity process. As they are professionals, they should have the ability to exploit any opportunity for development; otherwise, if the leaders', ambitious and demonstrate reactive rather than proactive attitudes they are impeding success and the creativity process in their organization Leadership has to convince the employees that they were benefiting with other tools from their organizational cultural change (Packard, et.al., 2015).

Leaders working in organizations' having the command and control, assigning resources, less empowering employees, such organization are less successful in their business. In such organizations, employees believe that all the outcomes are ultimately the responsibility of all as a teamwork, and organizational process working smoothly. Adversely when organizations working in environment where leaders are not extended their authority and will, empowering employees will be creative and productive (Parjanen, 2012). In this respect we have to understand that leaders didn't achieve organizational objectives or creating creativity a single-handedly, rather, encouraging the involvements of employees with their skills and knowledge. Such effort will transform and bring their organization to greatness and success

In any organization leadership opportunity should be existed at every level of the organization, and not confine only to the top of the organization, in fact such organization will not survive in the future, because there is no individual by himself only able to have time, skills, ideas , knowledge, and to handle all tasks of the leadership. Organization must benefit from the creativity of its employees and harnessing or controlling its leadership abilities. This is the new understanding for the contemporary leadership. It is the leadership ability to empowering the employees and inspires them which induce a great influence in the organization (Carmeli, Gelbard, & Gefen, 2010).

Organizations are living now in a knowledge-based era and required for employees sharing the experience of serving as a leader, sharing knowledge, aspiration and values, loyalty, commitment and working as teamwork or as one family to bring success to their organization (Lunenburg, 2011).With

such consistency within the organization, employees have time to think, optimizing their creativity, improving their performance, and a releases and get rid of suffocating dependence on top management /leader. Argument such as that the success of an organization may be achieved through the dependence on employee's collaborations, multiple sources of leadership at all organizational level rather than dependency on command and control leadership, may be acceptable in businesses today. Within this healthy environment, the organization is building and encouraging, employees' trust, self-esteem, optimistic and confident employees, becomes vibrant and not stifles creativity with effective leadership. Through the allocation of the available resources, such as financial support, information, time, design work groups, or any logistical support, leaders may fostering employees' creativity in their organizations (Cottrill, Lopez, & Hoffman, 2014).

Creativity needs a business environment to demonstrate and incubating a new creative ways in the organization, and it has a crucial role for the survival of the organization through the penetration in the marketplace, as creativity refers to generating ideas for the development in the long run. Thus, creativity in such context refers to those employees involved in this process and the organizational culture that facilitate and sustain creativity. In such environment employees are providing new ideas which represent a possibility of enhancing the organizational images in the markets or the society, in addition creating better communication and employees' commitment at all levels of the organization (McBeath, et.al, 2015). Advance network of communication within the organization is improving creativity, due to the accumulation of knowledge, sharing and developing ideas between employees. Although Innovations is not really the focus of this study, innovation needs creativity but creativity does not necessarily lead to innovation, and the employees' creativity induces a fundamental contribution to the organizational innovation, effectiveness, provide new solutions and possibilities that benefit the organizational enhancement and survival in the long run. For creativity, employees' should be willing and able to be creative. In this respect their experience, diversity of knowledge, skills, perspective, and motivation is necessarily to generate ideas, better solutions and creative performance (Hyypiä, & Parjanen, 2013). This creative insight is probably the result of diversity within the organization, specifically employees with different attributes and perspectives.

## **SUSTAINING CREATIVITY: PERCEPTIONS AND DIMENSIONS**

Creativity Within the organizations depends on the employees' willingness to suggest and invent new ideas, and the leadership capacity to fostering such initiatives effectively, interpreting such direction through their beliefs, values, and adaptation themselves to harmonize behaviors with the organizational goals and objectives (Nkomo, & Hoobler, 2014).

Such leaderships' behaviors are enhancing trust and strong relationships with their employees, not concealed from the employees, and building a healthy working environment. Employees' then perceived their leaders as a supporter to their ideas and this situation reflects the creativity atmosphere. In fact is a relational transparency between them.

Organizational environment is the basis and the ground to establish and planting a creative workplace climate. Sustainability of employees' creative performance need logistical support to be designed and allocated at all levels of the organization. Therefore employees are free and not afraid of expressing their ideas. Such climate is aspiring the employees and, stimulating creative behavior (Kerman, et.al, 2012). In any organization employees may suggests unconventional ideas and conflict opinions as far as they are free to express their ideas. In this stage leadership responds is to express the constructive feedback and corrections in a developmental manner and a respectable behavior. This will increase employees' respect and trust in their leadership, and induce them to create innovative suggestions and practical solutions. For Morrison, & Arthur, (2013), employees will not afraid of punishment and such higher situational control will increase the level of creativity and decreasing the level of changes, taking initiatives as they realized that their leaders' proactive behaviors and engagement is for positive development.

To improve the organization's internal images between employees leaders are keeping their eyes for any steps or behavior from their sides to modify attitudes and beneficial creative activities of those employees, as far as creativity may be affected and influenced by their leadership characteristics (Follesdal, & Hagtvet, 2013). Leadership has a crucial role in fostering creativity environment through employees' attitudes, enhancing the perception of support with the employees, and traits. The required behavior from the leadership is to consider the complexity of the organizational setting, and at the same time encouraging knowledge sharing between employees.

In line with this is that the employees' creativity may be enhanced through the TL supportive supervision, facilitate their skill development and showing them ways to achieves goals within their tasks. With such recognition is likely to do their work effectively and efficiently. Empowering employees psychologically which is another source of creativity, will energize them with intellectual stimulation to explore different dimensions of their tasks and are more likely to exhibit creative behavior. Such leadership behavior is providing the employees with personal autonomy and might increase their achievement, builds employees self-confidence and heightens personal development when such behavior became an organizational culture at all managerial level, which, in turn, leads to providing meaning and challenge to their work (Iachini, Cross, & Freedman, 2015). Thus, employees' creativity will be affected by such characteristics of their organizations' climate. Such workplace environment affecting the employees' perceptions, in accepting and encourages risk taking, and with

the organizational resources which are allocated to supporting creativity TL can affect creative behavior, a climate supportive of creativity and employees' improving their performances.

For Selden, & Sowa, (2015), a positive relationship between TL and the organizational climate should be existed. Such TL supportive supervision is one determinant from many for encouraging creativity and employees' interest in their tasks within the organization. This type of supportive leadership and inspirational creativity is likely to enhance employees' skill development and challenges, the excitement and meaning that employees attribute to their performance and willingness to focus in their work. Within this context the organizational tendency to creativity is the achievement of its objectives value, and its success in the market, society and the economy (Lindberg, & Meredith, (2012). Employees are the source and the fundamental for the foundation of organizational creativity. Those employees are developing the adequate plans for implementing and executions their ideas and more likely come up with solutions. Moreover, creates a spillover effect serving the whole organization (Ladkin, & Taylor, 2010). In this meaning TL could bring significant changes effect to employee's performance.

As the UAE is a developing country jobs demands intellectual, and has become complex. Therefore, to sustain effective performance and progress as an ongoing process, organizations' needs leadership quality, encouraging creativity, also employees' participating in declaring their attention on the success of the organization. Building organizational commitment is one way of fostering TL, employees' loyalty, commitment and declaring their attention to sustain development. Such existence of connectivity is enhancing employees' job satisfaction, efficiency, and behavior. Creating conducive climates for the development of creativity in the organization is urge employees to create new ideas and fundamentals solutions for the problems. Transformational leadership then can be directed employees to achieve superior performance that faces renewal and transformation demands. Attention is then to build trust and respect to motivate their employees to exceed expectation (Thamrin, 2012), also more efforts for increasing creativity, amount of energy and organizational commitment in initiating a task and in challenging unpredictable circumstances. Ideally, what is needed is a leadership with excellent communications of his/her vision capability and imagination, confidence and ability to work with the employees and generate enthusiasm and inspiration for it.

## **METHODOLOGY AND ANALYSIS**

The major contribution of this study is investigating how transformational leadership influence employees' creativity attitudes and how leadership awareness and assessing the factors encouraging creativity.



The present study employed survey type and involved the leadership/management of these companies in the sample. The population of the study was selected through stratified sampling. Questionnaires were sent to the managers of 125 companies (represent more than 53% of the industrial firms, according to Abu Dhabi Chamber of Commerce, 2015 Annual Report) with significant responsibility for leadership/management contribution to motivating creativity – oriented management. From 125 questionnaires distributed, 115 managers completed back their questionnaires, result in 92% responses. Measures were adopted and used to weigh each of the (9) variables of motivating creativity, namely, Employees' commitment, Working with colleagues, Working under pressure, Flexibility at work, Employees' Experience & knowledge, Diversity at work, Employees' trust, Efficiency & efficacy, and Friendly environment.

Only five motivators were found significant for motivating creativity between these three clusters in the economic sectors in the sample. Therefore one-way ANOVA analysis is used to assess such similarity. The study used a five-point rating scale, i.e. from 1 (strongly disagree) to 5 (strongly agree). The research is to investigate the status of these constructed variables as enablers for motivating creativity in industrial sector (Table 1).

From Table 1, the F value between factors motivating creativity factors within the companies surveyed in the sample was high and significant in 0.01. The rank of " F " value indicators for Employees' commitment, Flexibility at Work, Diversity at work, Having Employee's' Trust and as the highest is: 2.35, 3.11, 2.15, 8.17, and 5.70 respectively. The Diversity at work in the first rank, Employees' trust the second, Flexibility at work in the third rank, Employees' commitment in the fourth rank and Employees' experience & knowledge is last rank. Using P-value method, Efficiency & efficacy was found 0.81, and Employees' commitment is the least 0.15. However such P-value has a rather high value. The alpha value of 0.87 indicates that the research instrument enjoys a rather high validity.

**Table 1: Factors Motivating Creativity: Similarities/Differences**

Factors Encouraging Creativity	Manufacturing group I		Services group II		Agriculture group III		One-way ANOVA & Scheffe's test		
	Mean	SD	Mean	SD	Mean	SD	F	P-value	Scheffe's test
Employees' commitment	3.41	0.96	3.99	0.63	3.61	0.72	2.35	0.15	
Working with colleagues	3.81	0.76	3.75	0.76	3.51	0.76	0.29	0.68	
Working under pressure	2.41	0.95	2.46	0.65	2.71	0.70	0.70	0.33	
Flexibility at	3.69	0.65	4.05	0.70	3.73	0.59	3.11	0.08	

work									III > II, III > I III > I
Employees' experience & knowledge	3.61	0.94	3.09	1.02	3.32	0.59	2.15	0.20	
Diversity at work	3.01	0.86	3.25	1.11	3.23	0.63	8.17	0.00*	
Employees' trust	2.13	0.73	2.71	0.80	4.08	0.80	5.70	0.00*	
Efficiency & efficacy	3.01	0.76	2.92	0.96	3.02	0.70	0.10	0.81	
Friendly environment	3.34	0.82	3.84	0.63	3.64	0.67	2.31	0.21	
Alpha Value 0.87									
*P < 0.01.									

The mean values on a five-point scale (1= strongly disagree; 5 = strongly agree) of the five indicators concerning motivating creativity were: 17.35, 18.28,

12.95, 36.57 and 19.56 for Employees' commitment, Flexibility at work, Employees' experience & knowledge, Diversity at work, Employees' trust respectively. The mean value of Diversity at work management perceptions is 36.57 in the high ranking, indicating that management in the firms surveyed is encouraging diversity at work, and the open door system, high participation for employees in the decision making process, and is aware that motivating creativity plays a significant role in the success of the organization. Employees' trust is in the second ranking 19.56, indicated that solving organization problems through teamwork was high and the management empowering their employees with the responsibility. This indicator is compatible with the third ranking elements, the Flexibility at work which value is 18.28. In fact, the respondents believe management and employees in these firms are judged enough, by what they do and the knowledge of departing employees is not passed pervasive on to successors. In fact, such issues reflects that these companies has a suitable network of knowledge workers, further more they believe there is an active program for developing idea. The Employees' commitment element is in the fourth rank with value of 17.35. From the score the clear interpretation for such situation is that the employees and their companies have been acting rather effectively in case of regular and wide exchange of knowledge, and using of information system and communication have been higher than average. Employees' experience & knowledge is in the last rank with a mean value of 12.95. The lower level of value indicated that employees have had s simple

knowledge about the creativity concept. The mean of creativity motivation factors was 117.620, which indicated that respondents in the sample believed that management efforts for creativity concept between employees with respect to the present criteria along with the companies' internal environment were less than the average (Table 2).

**Table 2: Statistics Analysis**

The Variables	Mean	Std. Deviation	Kurtosis	Skewness
Employees' commitment	17.35	7.7	- 0.065	- 0.523
Flexibility at work	18.28	8.7	- 0.203	- 0.651
Employees' experience & knowledge	12.95	7.1	- 0.272	- 0.751
Diversity at work	36.57	10.1	- 0.313	- 0.433
Employees' trust	19.56	9.1	- 0.079	- 0.017
Total Factors Motivating Creativity	117.620			

Through the discussion with those managers in the companies surveyed, the researchers asked respondents to elaborate on their answers. Respondents mentioned other motivational variables for creativity in their firms. The researchers believe that leadership/managers' education was probably behind such revelations. Motivational factors mentioned by those managers may be specified such as: internal or external competition, organizational culture, no fear of criticism by the management, financial and economic resources, and management risk tolerance. To assess if the education element is behind such problems' expectations we used the Kruscal-Wallis techniques. Results are in (Table 3).

From (Table 3), results revealed that there is a relationship between the Diversity at work, Employees' trust, and Flexibility at work, and total creativity motivational factors with employees' and the managers' education level. With ( $K\hat{o}f=2.000$ ,  $P< .01$ ), the value of the construct variables are: ( $K\hat{o}f=34.329$ ), ( $K\hat{o}f=19.236$ ), ( $K\hat{o}f=14.903$ ), ( $K\hat{o}f=17.881$ ). There were no significant differences between education and the other two motivational variables (i.e., Employees' Experience & knowledge and Employees' commitment).

**Table 3: Kruscal-Wallis Test**

	Diversity at work	Employees' trust	Flexibility at work	Employees' commitment	Employees' experience & knowledge	Total Factors Motivating Creativity
Chi-Square	34.329	19.236	14.903	6.973	5.175	17.881
Asymp. Sig.	0.000	0.000	0.000	0.695	0.219	0.005
df	2.000	2.000	2.000	2.000	2.000	2.000

## CONCLUSIONS

The aim of this exploratory research is to shed light on the roles and to understand the effects of TL in motivating employees' creativity in their organizations in the United Arab Emirates (UAE) within their organizations. The paper is an attempt to investigate the level and the extent of leaderships' involvement in these organizations in motivating creativity in the manufacturing, services and agricultural sectors of the economy.

This paper increases the understanding of how TL in the UAE industries affects an employees' ability to enhance their creativity and the organizations' ability by recognizing the factors encouraging creativity, therefore, TL characteristics are needed in order to influence employees.

The analysis shows that creating cultural environment of diversity at work, better knowledge sharing, employees' trust, flexibility at work, employees' commitment, is conducive and sustains creativity process in these organizations; also TL is positively associates of their impact on these variables. The analysis demonstrated that TL has a greater influence on employees' creativity and strengthening such attitudes within the organization.

## LIMITATIONS OF THE STUDY

The study has some limitations. Our research provides an insight of leadership roles in three sectors of organizations venturing in the UAE. Therefore, research in other sectors of the economy may provide additional information on the creativity situation of companies in these sectors. Additional research could conclude other variables that leaders may involve in. Another study may be needed to explore what type and degree of diversity is most beneficial to the organization development processes.

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## THE HEALTH SYSTEM MANAGEMENT IN COUNTRIES WITH FINANCIAL NEEDS (CFN)

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### ABSTRACT

There are few studies about the health system coordination, integration, effectiveness, efficiency, reliability, accessibility, equity, public-private involvement and community participation on health services of globalization [Zakus, Lysack, 2001]. Nowadays, modern diseases cross the national borders with international migrants bringing more questions to the health management. The first one is focused on the improvement of „global health” of population once the global health services problems are understood in today’s world changing needs [Global Health Policy and Health Research, 2002].

All nations are members of the *World Health Organization* (WHO), but health systems are very different, especially in *countries with financial needs* (CFN), where sometimes health care is critical task for these governments, due the limited financial resources in these countries.

Health systems face numerous constraints in low-income countries, but they should be carefully addressed and focused on multiple horizontally of the (general services providing prevention health problems) programs in synergy with the need for more vertical financing of specific health conditions within limited finance, human resources and managerial capacity [Elzinga, 2005]. Not surprisingly, three components of verticality (intervention strategy, monitoring and evaluation, and) are found frequently where poverty and epidemics prevail. It will be difficult for national programmers to move rapidly towards efficient intervention without international cooperation. International agencies and donors rethink their priority program in connection with vertical–horizontal strategies.

**Keywords:** *health services functioning, healthcare management, integration, countries with financial needs*

## THE FUNCTIONING & OBJECTIVES OF THE HEALTH SYSTEM

Health systems required various approaches. From systems theory we know the concepts of inputs (human, material, medical services and technologies, financial resources), processes (workplace or roads safety, weather predictions, antismoking legislations, dietary recommendations, formal and informal interactions of individuals and populations), outputs (final „product“ of health, social and individual goals), feed-back regulations, continuity, dynamics etc. It is important to clarify types of interaction with external environment (physical materials, energies, information, local and national regulation, economic, social and technological conditions, local parameters, national variables), and how to adjust system in time. In practice health systems management is a mixture of two approaches: USA model based on predominant private service tax (all tax payers contribute for all or partial expenses for certain required financial inputs), or public partially free medical services.

WHO stipulated and defined four key functions of a health system: “providing services; generating the human and physical resources that make service delivery possible [McCoy, 2003]; raising and pooling the resources used to pay for health care; and, most critically, the function of stewardship” [Braverman et al, 2001]. The *World Health Report 2000* also defines the three main objectives for health systems: improving the health of the population; responding to people’s expectations; providing financial protection against the costs of ill-health [World Health Report, 2000].

WHO promoted the strategy of *primary health care* (*Alma Ata Declaration* in 1978), which invite countries to accept basic level of health services through public or private providers, and mix financing of the government or of the local communities combined with population insurances [Bannerman, 1983)].

A poor health system it is often related with the economic crisis and absence of resources. This is partially or, in some cases, totally inaccurate since the problem doesn’t lie in the lack of resources, but in an inefficient and ineffective management. As a result doctors can prescribe to patients excessive quantities of drugs, managers from health industry can increase the salaries of hospital employees without sustaining the increase of the operation costs, scale inefficiency of hospitals, unbalanced report between remuneration and performance.

Since we know the results the focus is now on inefficiencies causes. It is common that key decision makers are not stimulate to work efficiently (moving from entry to top management is not related with the work performance but with external factors like political decisions). Also decision makers may be forced in their ability to make efficient choices; for example, they may lack knowledge or experience of what to do.

Many governments focus on the public health domain, often disregarding the privately financed health sector [Baru, 1998]. In CFN, the access to health services has a poor quality, and financing function or insurance schemes are precarious.

Stewardship – Government function	Real Situations	Generated Situation
Investment/Resources in Health Logistics	Training & Coaching the Health Professionals	Unpredictable Expenditures Lack of insurance
Inappropriate Investments in Healthcare Sector	Poor incentives	Losses in Budget
Health Programs, Equipment, Salaries, Medicines and Treatments External Allocations	Disabled Health Sector	Outside Cash Flows Corruption Malpraxis
	Major difficulties	
	Performing and Qualitative Health Services	
	Ill Labour Force	
	Weak Economy Development	
	Lack of External Recognition	

Figure 1: *Diagram of Function of Health system in CFN (personal approach)*

**Stewardship** (administrator) is a key function of the health system, usually done by governments. CFN limited managerial capacity and recurrent costs are a considerable problem. Also, **investment/resources** in health infrastructure, training of health professionals, poor incentives and collecting patients' payments or unpredictable insurance expenditures are major difficulties. In short, many CFN governments' incapacity to provide qualitative health services contributed to poor or unorganized health sector. In consequence there are difficulties to reach objectives of responsiveness and fair financial contribution to health system.

## SYSTEMS-LEVEL MECHANISMS

The ultimate goal of healthcare system is to promote or protect people's health through the intermediary role of many agencies involved with financing, planning, administration, regulation, provision of any other health-related function. At the systems level, tools available to decision makers include: *regulation and legislation, resource allocation options and financial incentives*.

**Decision makers** can use regulation and legislation to set minimum standards of care, for example educating providers and users to prescribe of safe drugs on a large scale. In some situations, regulatory controls are ineffective, or even encourage illicit activities. A more acceptable strategy is the explicit rationing requires to public acceptance of drugs, clinical discretion, and public involvement in the prioritization process.

**Resource allocation** schemes have an important role in many CFN population groups and medical staffs. The World Bank formulas prioritize area allowances costs of delivering health services. Where



staff capacity and facilities are limited is needed specific disease programs. Experience in South Africa and Uganda suggests that the **financial incentives** can be powerful tools for influencing providers' or users' behaviour, but further studies are needed.

## SERVICE-LEVEL MECHANISMS

The managers and health workers can prioritize their efforts providing a framework of resources. The experience of the *Tanzania Essential Health Interventions Program* highlights the gains that a decentralized health management structure [Jamison et al, 2006]. The education on major causes of ill health, understand patient rights, chose adequate drugs and medical services, accurate public information on medicines play a decisive role for appropriate decisions and expectations, especially in developing countries. To improving health outcomes and strategy for poorest countries facing malaria, tuberculosis, leprosy and other few most severe diseases, the main efforts should be devoted to build up the basic health service infrastructure to deliver health interventions directly to households dispensing immunization vaccines, anti-malarias drags or antibiotics. The experiences from China, Pakistan etc. showed that the disease control programs can become in time more advisory and less managerial. These countries developed programs for specific disease control, ensuring funds to health service infrastructure, started immunization campaign in which mobile teams vaccinated all children in a particular age group, increased management of diseases control.

## RESEARCH PRIORITIES

The *Alliance for Health Policy and Systems Research* located in Geneva and based on WHO recommendation [GHPSR] to identify health policy and systems research for health outcomes in low and middle income countries estimated in its 2004 Report [Global Forum for Health Research] that financing in medical research accounted less than 0.02% of the total annual health expenditure of developing countries. The recent studies found that most researches are at small scale, with little methodological rigor, ask for larger finance interventions, and in some cases research outcome has limited applicability. On methodological practice for example, hospital autonomy reforms and decentralization are still inadequate, is lacking types of governance and institutional arrangements, it is not clear strategies to achieve specific interventions in various epidemiological context combined with cultural contexts. Many ethical issues arise in studying problems unrelated to the local context. It is desirable to improve operational programs and research agenda, including setting priorities, translate research evidence into practice, deliver cost-effective interventions.

## ORGANIZATIONAL FRAMEWORK

The managers knowledge, experience, and intuition (acquired over time) is a component which include systematic activity (education, research, informal reading) or in hazardous manner (particularly in traditional CFN therapist/ healers). The medical and health research activity, ecology related policy, and management is focused more and more at private sector companies, universities, or on the international level.

A key element of health system is **provider network** composed of physicians, hospitals, doctors association, nurse association, socio – religious centres and other providers that offer health services to members, based or not to an insurance plan. The health insurance requires to have assigned a primary physician who coordinates all other health care services of patient. The lack of “personal doctor” avoids the responsibility for coordinating prevention and healthcare, and also cost-sharing involves for paying of health insurance companies. In countries with limited insurance coverage costs of health services is higher and impoverishes the patient family. The figure below shows the types of providers and institutions of a health system (public health, doctors association, nurse association, socio – religious centres, consultation and treatment, provision of drugs, physical support for the disabled persons, and management of unpredictable and costly health expenditure [Standing, Bloom,2002].

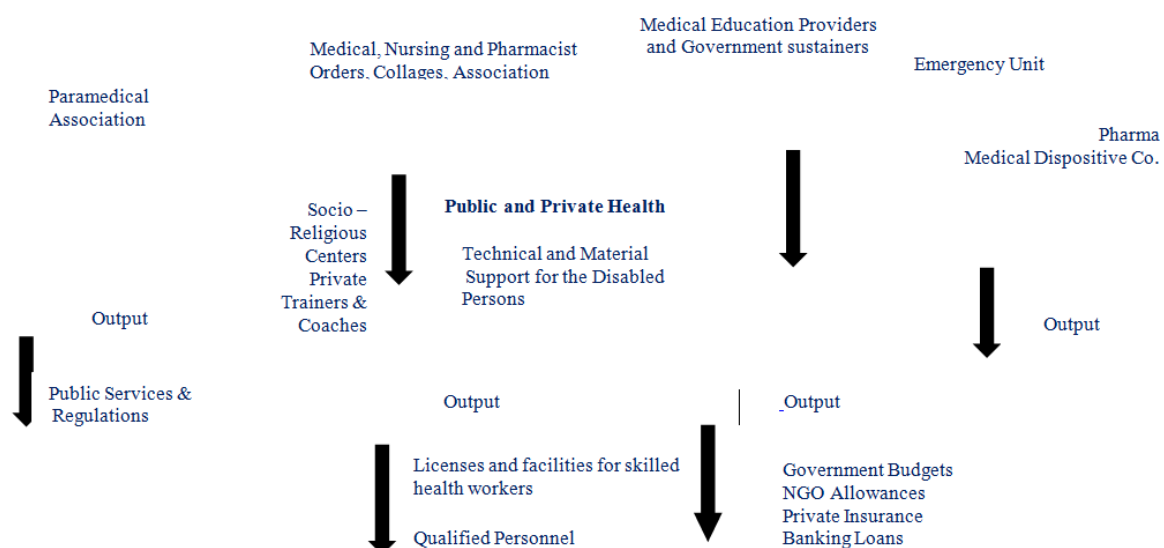


Figure 2: Typology of Actors on the Health Care Market in CFN

Providers and institutions are classified into **unorganized health sectors** (includes *marketed* services, such as those given by unlicensed private providers, and the *non-marketed* services provided by household members and neighbours), and **organized health sector** (public services run by the government and licensed private providers). For each national health system it is important to know in what sector the service is provided in order to have rational health planning. For example, in Niger 16% of obstetrical services are provided in non-marketed sector (by family members), in Sri Lanka

97% of births are attended by trained personnel, India increased considerably the number of primary care centres and in public service facilities, even private health providers are widely used.

**Organizational culture** is a relevant theory to management, learning aspects of national cultures, rites and rituals, myths and traditional cultural issues, different aspects of national life. Leadership in health system began to occupy a more innovative role taking into account organizational culture.

**Private donor agencies** are also growing in importance in global health approaches. The medium- to small-sized NGOs and community-based organizations require further attention is the evaluation of the impact of health assistance and services, being in close proximity to communities and people.

**Individual provider** belonging to formal professional associations or unlicensed individuals directly provide services to patients. In the CFN they have a large impact on health resource utilization and health outcomes. In developing countries, health services and education system reproduce the social inequalities that are present in society. The experience varies in different countries, but for example hospitals are often not used due to the distance and cost, because the lack medicines, cost and “free” are higher, their staff may discriminate or simply can be ineffective. The WHO estimates approximately 4 million health service providers, with large diversity on regions, professional skills, ethnic, gender, educational institutions, or competence, responsiveness, productivity, financial incentives and remuneration [WHR, 2006].

**National** management of health system as a structural approach can affect, through their outcomes, the entire system performance. As Zakus mentioned [Zakus, Lysack, 2001], the national context includes [Zakus D, Bhattacharyya O, 2007]: • the organisational structure, • the interaction systems working between public and private sector, • regulative principles and procedural norms, • the cognitive factor linked to the pharma big business position in the market, • the handiness of health-related technologies and treatments (effectively recognised by the government corresponding specialised bodies).

In practice, the social environment let in [Zakus D, Bhattacharyya O, 2007]: the ownership positive motivational influence towards providers, details on payment modalities, the way the assessment and auditing activities are developed, and the patients and other actors’ expectations of the considered residential area. The providers represent the other level [Zakus D, Bhattacharyya O, 2007], with appropriate competences, skills and training, with new opportunities and challenges for long life medical education, their weaknesses with regard at the degree to which they can face the pharma industry influence, and their quality to perform on real time evidence-based practice. The way the different partners of the medical actions operate can give a good image of the consequences following the caseloads registrar [Zakus D, Bhattacharyya O, 2007]: the daily number of seen patients; the provider’s power and competences to pick up the right approach and management; the availability,

acceptability, and affordability of this approach. All these factors have an integrated influence in establishing the correct behaviour and management in evaluating the patients' health conditions.

**Governments regulation** imply the stipulation of licensing, registration, salary, training, equipment standards, pharmaceuticals safety and supply lists, pricing, hospitals accreditation and its budgets, medical structures and tuition etc. Regulations concern government surveillance: implementation of laws, adjust the private or public system to protect citizens health, enforcement of various standards on health professions (licensing, training, salary, registration), technical specifications, pricing, supply and approval for sale of pharmaceuticals and high-technology equipment, governance, accreditation, budgets, structures, and even procedures for hospitals, insurance plans and funds etc.

Over the past decades an important strategy in achieving greater efficiency was decision-making closer to place where it expected political and economic greatest impact. *International Monetary Fund* (IMF) recommends [Zakus D, Bhattacharyya O, 2007] that any decentralization activity alongside with structural adjustment policies that favoured budget cuts to social services, including primary health care, promotion of user fees, and privatization. Majority of word countries have health systems in which both the public and private sectors is controlled by the government.

Health managers easily recognize that they often cannot control all the necessary *inputs* for ensuring good health, ambulatory care, and adjacent services (laundry, food production, maintenance). The protection of the people's health is reached with the contribution of many agencies involved in financing, planning, administration, regulation, any other health-related function: ministries of health, finance, labour, agriculture, transportation, education, insurance organizations, public and private sector players, professional unions, voluntary organizations, universities and health education institutions, even international fora (WHO, symposia etc.)

A key component of any health system is the *human resources* (medical profession continues to dominate health services, hospitals as the centre of most health systems, implementation of competency-based criteria in getting good health service). An extended list of accreditation criteria includes specified competences, permanent training, standardization, control of professional associations, improve the standards.

**Decentralization** from central to local levels of government is a recent policy and includes options that are transferred from central institutions to local or others institutions at the periphery in forms of:

- ✓ Administrative tasks relocation from central government to local offices of central government ministries.
- ✓ Transfer of responsibility to regional or local government (with or without financial responsibility).
- ✓ Responsibilities assignment to local organizations outside such as quasi-public (nongovernmental, voluntary) organizations, but with a central government indirect control.

- ✓ Transfer of ownership and government functions from public to private bodies, with some degrees of government regulation. In sub-Saharan Africa, private providers deliver at least 50% of the health services under full governmental stewardship of their markets and services.
- ✓ Private-Public Partnerships - the most CFN governments enter quite effectively into partnerships with the private businesses, national aid agencies, non-governmental organizations (NGOs), private voluntary organizations (PVOs), churches or private philanthropic organizations for the delivery of various medical services. The WHO's emphasis on improving of partnering between governments, civil society, and the private sector in dealing with worldwide health problems, like infectious diseases by creation of the Global Fund for HIV/AIDS, Tuberculosis and Malaria.

## ABOUT THE HEALTH REFORMS IN AFRICA

In 1978, the WHO and UNICEF conference organized in Alma-Ata formulated the strategy to achieve "Health for all by the year 2000" on a global basis and multi sectorial approach, linking health provision with other aspects of socio-economic development. The outbreak of HIV infection in African region in the early 1980s, incidence of acute respiratory infections, diarrheic diseases, malnutrition and malaria causes increase of morbidity and mortality on the continent. Due to wars and other complex emergency situations, sub-Saharan African countries were confronted in the 1980s with severe decline of services in the health sector. In May 1987, during the African countries conference health ministers hold in Mali, a new strategy was adopted as "Bamako Initiative"; this initiative was later approved as a resolution of OAU (*Organization of African Unity*) by heads of state and governments representatives. This document expressed the generic training idea of *district health management teams* (DHMTs) with the goal to ensure access to essential health services. Program "Health-for-All in 21st century" introduces also some new strategic issues, including *primary health care* (PHC), and the *sector-wide approaches* (SWAp) as a long-term partnership led by national authorities with civil society and external partners. In the fact SWAp have been developed as a process to facilitate development in member countries, referring initial for bank sector.

In March 1996, the *United Nations Special Initiative on Africa* (UNZIA) launched a sustainable package to reform health sector in Africa through SWAp. During the 1999 meeting of *WHO African Regional Committee*, the relevance of the principles developed by the PHC for the African countries was confirmed by the African countries (South Africa, Ghana, Kenya, Lesotho, Malawi, Mozambique, Tanzania, Uganda, and Zambia) that adopted SWAp, to facilitate donor relationship and management support of financing health sector. There was the interest to improve the capture of all government and non-government funding sources and expenditures, and health professionals desire to absorb human and financial resources, often with unsustainable standards and insufficient building

of local sources. SWApS allow introduction of common management arrangements, monitoring on financial management and procurement of goods and services. [Chatora et al, 2002]

DHMT developed district health development plans on a regular basis, inclusively establishment of community health funds, or to detect *desperately poor* community members that are given freely health assistance (for instance immunization).

There are examples of successful methods of implementing community interventions in order to achieve positive outcomes for example in reduction of infant mortality. In many African countries already DHMTs are now body for the management of the district health system (DHS) of its population. Also, structural transitions of Malawian health infrastructure focused on improving resource allocation and its use, bureaucratic decentralization and increased public participation. Trained DHM coordinators utilized management systems focused on information, logistics, budgeting, handheld wireless technology (HealthNet Malawi) to link health staff to planners [Joint program of work for health sector SWAp 2004-10]

## IMPROVING THE GENERAL HEALTH SYSTEMS

A health system is the core of a long-term future sustained health improvement. The health of the system must be carefully considered whenever major new programs are put in place.

Sometimes health programs focus on disease or a specific effort because you need to address to an urgent problem. However the effort should be concentrated on the long-term system strengthening. Countries must avoid having multiple vertical programs competing for limited human resources and managerial capacity. Over time, as horizontally organized services strengthen, the need for more vertical financing and delivery strategies will lessen.

A central focus should be on reforms that have an impact on organizational structures and human resource management. These will play a key role in improving health system performance. Successful changes should be gradually implemented rather than high intensive reforms. Stability of policies and consistent implementation are required.

Linking financial incentives to performance, whether through contracts with health care providers or through performance-related pay, may bring rewards if careful monitoring is possible; however, evidence on the sustainability of such arrangements is lacking, and effective monitoring may require long-term external involvement. Evidence is needed on alternative approaches to improving performance.

Organizational reforms must keep the goal of improved health outcomes, equity, and responsiveness in sight. Doing so requires paying special attention to users' demands, to primary care and first-level hospitals, to quality of care, and to technical backup for disease control programs.

Capacity-strengthening efforts in most settings must encompass action at all levels, from increasing leadership of the ministry of health at the national level through strengthening support for peripheral levels.

## CONCLUSIONS

Any health system should design its organisational structure based on fundamental principles that can make the medical act and services deliverable, accessible, equitable and providing good quality to all citizens. Based on the principle of inter sectorial collaboration such approach could be feasible as illustrated in Figure 3. The basic functions required to improve (health) equity are: appropriate stewardship, developing human resources for health, mobilizing and allocating adequate finances and other key resources, developing and maintaining a well-functioning health information system and ensuring equitable access to essential medical products, vaccines and technologies.

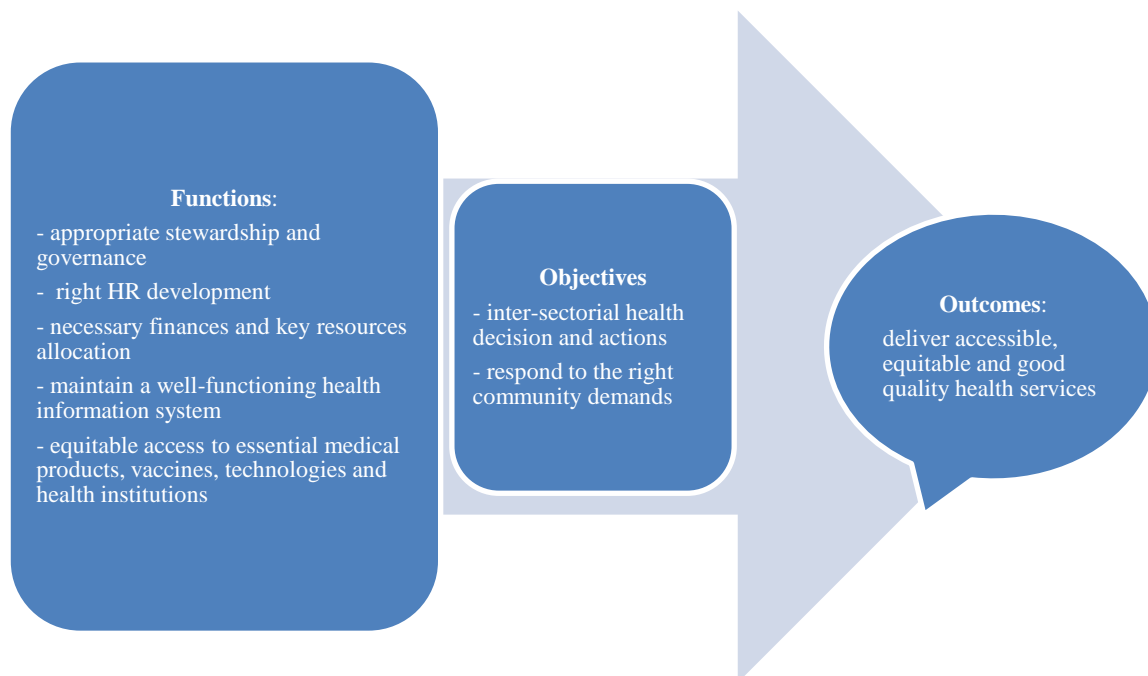


Figure 3: *The sound diagram of the national health systems (personal approach)*

The management of health organizational structures and human resource plays an important role in improving system's performance. However, evidence suggests that changes are desirable to be successfully implemented in a gradual manner rather than on "shock" reforms bases. Stability and consistent of policies are also required.

In CFN area arrangements and international monitoring may require a long-term involvement. Linking financial incentives to performance is possible via government arrangement and monitoring, whether through contracts with private providers or through private – state partnership. However, at every step are needed alternative approaches to improve performance.

Managerial and organizational reforms must improve health outcomes, equity, and responsiveness in every national health system. Having in mind the priority of feedback between output (users' demands) and input (quality of care) requires paying special attention to technical backup for disease control programs.

Health related functions (public health, medical goods, support for ill and disabled, expenditure) in marketed, non-marketed, or organized health sector are strengthening are guaranteed if action efforts encompass all levels, from increasing stewardship of the ministry of health for peripheral levels.

The World Health Organization as the specialized United Nations agency for global health matters, with a Secretariat of the *WHO Regional Committee for Africa* in Pretoria – South Africa, 46 liaison offices located in member states, has a consistent presence in the region: expanded the essential community health services based on *District Management Health Teams* and from the *Public-Private Partnership*, achieved polio eradication, eliminate neonatal tetanus, control measles and yellow fever, increase the coverage of over 90% vaccine for diphtheria, pertussis, tetanus, expanded modern contraceptive and prevention of mother-to-child HIV transmission and other critical basic health practices. New partners associated to finance and implement the health reform in countries with financial needs: International Aid Association (IDA), United Nations Children's Fund (UNICEF), United Nations Development Program (UNDP), the European Union, the United States Government, and the African Development Bank.

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# CO-CREATION IN SMALL-MEDIUM ENTERPRISES AND OPEN INNOVATION INTERMEDIARIES: THE CASE OF “MERCATODELLINNOVAZIONE.IT”

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## ABSTRACT

Co-creation research has been gaining momentum recently and when considering Open Innovation (OI) it identifies coupled processes as the only ones leading to co-creation, while OI literature has identified only interactive coupled processes as leading to co-creation. Open Innovation Intermediaries (OII) and their web-based platforms are considered instruments which could facilitate these OI coupled processes. These third parties are able to support firms in their OI processes due to their functions and tailored services. Nonetheless, no study has yet considered the role of OII in coupled interactive processes. Aspects which need to be considered include the peculiarities of small-medium enterprises (SMEs) that are willing to realize these processes. This paper aims to answer two specific research questions: *in which stage does co-creation emerge in SMEs OI processes supported by OII? How does co-creation evolve in the relationship involving SMEs and OII?* The paper attempts to build a theoretical framework to illustrate how different types of OII can stimulate co-creation in SMEs willing to start OI interactive coupled processes, clarifying OII's role in this domain. We then analyse the qualitative explorative data to answer these questions. The findings could help us to understand co-creation in the stages of OI coupled processes better, by supporting SMEs in choosing the most suited OII for each process at each stage.

**Keywords:** *Co-creation, SME, Open Innovation Intermediaries, Open Innovation processes, Coupled processes*

## INTRODUCTION

Co-creation has gained momentum recently, even if it has different interpretations and appears in different streams of marketing literature including Service Management, Service-Dominant Logic, many-to-many marketing and the so-called “*post-modern*” marketing (Alves *et al.*, 2015) – as well as in the business network (e.g., Mele and Polese, 2011) and strategic management literature (e.g. Prahalad and Ramaswamy, 2000; Ramaswamy and Ozcan, 2014). Above all, in the strategic management research sphere, co-creation is used only when referring to Open Innovation (OI) coupled processes.

OI should be understood as “a distributed innovation process based on purposively managed knowledge flows across organizational boundaries, using pecuniary and non-pecuniary mechanisms in line with the organization’s business model” (Chesbrough and Bogers, 2014, p. 27). It considers the involvement of external actors in innovative activities, including customers, suppliers, experts, universities, private/public R&D institutions and competitors (Chesbrough, 2003). Coupled processes consider the simultaneous development of OI inside-out and outside-in processes (Enkel *et al.*, 2009) and have recently been studied in more depth by Piller and West (2014). These authors distinguish between “bi-directional” and “interactive” coupled processes, linking co-creation only to the latter. They define co-creation “as an active, creative and collaborative process between a firm and individuals during a new product/service development process in which participants contribute to a task initiated and facilitated by the firm” (Piller and West, 2014, p. 39). Even though Piller and West (2014) design an OI process model for coupled processes, some gaps in literature still remain to be filled in this domain.

One of the most interesting points to be answered, concerns tools and dedicated infrastructure, especially Open Innovation Intermediaries (OIIIs) (Diener and Piller, 2010; Aquilani *et al.*, 2016). Due to the complexity of coupled processes, the SME domain would appear more interesting, where OIIIs can intervene in supporting firms. Indeed, for many years SMEs have been excluded from mainstream discussions in OI research (Lee *et al.*, 2010; Wynarczyk *et al.*, 2013), even though innovation ‘by nature’ has an external focus for them (Edwards *et al.*, 2005) due to the liability of smallness (Parida *et al.*, 2012; Brunswicker and Vanhaverbeke, 2014). Nonetheless, benefits have been recognized for SMEs which open up their business models (Lee *et al.*, 2010). Moreover, SMEs show distinctive traits such as; 1) the need for a tailor-made search strategy to embrace OI; 2) a special focus on the selection of partners and practices; 3) the need for new management paradigms to reduce the costs and running time of collaboration with external partners (Hossain, 2015), which in turn increase their chances of launching new products (Spithoven *et al.*, 2013); and, finally, 4) an *ad hoc* patenting strategy to fully benefit from innovation (Zhang and Chen, 2014), given that SMEs new product turnover is mainly driven by patent protection (Spithoven *et al.*, 2013). Thanks to their characteristics, OI performance largely depends on

the resources of OI partners employed to implement their strategies (Colombo *et al.*, 2014a). Among these partners, OIIs could play an important role thanks to their functions, services, etc. However, until now, the literature has not focused on this topic. Therefore, the aim of this paper is to start to fill this gap, answering two research questions: a) in which stage does co-creation emerge in SMEs OI processes supported by OII? b) How does co-creation evolve in the relationship involving SMEs and OIIs? The paper starts with examining research focused on OII types and their potential contributions to OI interactive coupled processes initiated by SMEs. This gives us a theoretical framework, considering OII types in the interactive process identified by Piller and West (2014). However, unlike the Piller and West model, our framework focuses on interactive processes, as the only ones leading to co-creation. Moreover, it considers for the first time, both the peculiarities of SMEs and the role OII types can play with them. We then make a qualitative explorative analysis, based on the case-study method, involving SMEs for a New Product Development (NPD). This study opens new avenues of research linking OI, OIIs and SMEs research and could help managers to choose the most suitable OII to perform OI interactive-coupled processes at each stage.

## **OPEN INNOVATION INTERMEDIARIES: CONTRIBUTIONS AND TYPES IN SME OPEN INNOVATION COUPLED PROCESSES.**

OIIs can be considered to be third parties (Mantel and Rosegger, 1987), whose objective is to foster, enable and support interactions and collaborations among different players involved in innovation processes (Howells, 2006; Hakanson *et al.*, 2011; Colombo *et al.*, 2014a). They change the value creation systems and bridge the gap between knowledge resources internal and external to organizations. Although OIIs develop different functions (Howells, 2006) and provide numerous services (Aquilani *et al.*, 2016) within their web-based platforms, their roles can be summarized as follows (Aquilani *et al.*, 2016): networking (Gassmann *et al.*, 2011; Agogue *et al.*, 2013); knowledge transfer/experience sharing (Diener and Piller, 2010); brokering for problem solving (Agogue *et al.*, 2013); scanning information/needs (Diener and Piller, 2010). In general, OIIs could help firms and above all, could aid SMEs to maximise innovation opportunities, increase the likelihood of success in developing new outcomes and could impact their OI performance (Hossain, 2015). Indeed, Colombo *et al.* (2014b) argue that SMEs largely depend on the resources of their OI partners to implement their strategies. This makes the role of OIIs important also in supporting SMEs in co-creation processes. Obviously, selecting the right OII for each firm, especially for SMEs, is a relevant choice for effective implementation of OI (Aquilani *et al.*, 2016) as well as to co-create.

According to Colombo *et al.* (2014a), OIIs can be divided into four categories – *collectors*, *brokers*, *mediators* and *connectors* – using two dimensions linked to the intermediary process. These dimensions

include *access* and *delivery*. Firstly, *access* to disseminated knowledge deals with the way in which OIIs interact with their collaborative network in terms of sources (knowing exactly who has the appropriate knowledge necessary for the seeker's problem) and proposals (posting the query to their entire network of experts in different areas). Then, *delivery*, related to the method OIIs utilize to sustain seekers, distinguishing between OIIs capable of providing 'turn-key' solutions to their problems and only those required to offer contacts with knowledge sources. OIIs activity could be related to finding contacts and proposals in various ways, involving both OII *mediators* and *connectors*, in that players are involved in those processes which are at the same time *inside-out* and *outside-in*. *Mediators* are intermediaries, who offer contacts to their clients, selecting the most appropriate solvers based on the fit between their capabilities, expertise and the client's request (access sources). They seek to interpret and elaborate their clients' problems and select the most suitable sources of knowledge. In doing so, they provide access to their contacts and foster potential collaboration (delivery contacts) (Colombo *et al.*, 2014a). On the other hand, *connectors* are intermediaries capable of providing contacts with their network of globally distributed solvers and using proposals for collaboration. They collect information about the competencies and experience of members of their network, who can collaborate with their clients (access proposals) and then, allow their clients to select the most appropriate individuals or firms for specific problems (delivery contacts) (Colombo *et al.*, 2014a). However, it seems clear that *mediators* and *connectors* are more appropriate for large companies, due to characteristics such as culture, organization, strategy and above all, resources they can allocate to OI activities. Conversely, in the case of SMEs, so-called *collectors* could also be considered as they ask their innovation network members to provide solutions to problems faced by their customers (access proposals). Afterwards, they help their clients to select the most appropriate solution (delivery solutions). This last OII category could be relevant for SMEs which intend to adopt OI because they may limit their lack of managerial capabilities able to sense, acquire, assimilate and apply external knowledge sources (Spithoven *et al.*, 2013) or to create collaboration networks.

Building on these OII categorizations, we now develop our theoretical framework illustrating how different OII types can stimulate the various stages of interactive coupled processes performed by SMEs.

## **OPEN INNOVATION INTERMEDIARY CONTRIBUTIONS AND TYPES IN INTERACTIVE COUPLED PROCESSES DEVELOPED BY SMES: A THEORETICAL FRAMEWORK**

To develop a theoretical framework (Table 1), we have used the Piller and West (2014) model, which has been chosen because it is the most recent one solely focusing on coupled OI processes. Our

framework, which could be claimed is the only one that leads to co-creation due to interactive coupled processes, does however follow the same stages used by Piller and West (2014). Albeit, we should add that the fourth stage has not been considered as “leverage” is related to value capture from each partner involved in the OI coupled process, and not on co-creation developed outside firm boundaries (Piller and West, 2014).

Process Stage	Key activities	Types of OII	OII potential contribution domains
<b>Defining</b>	Problem formulation	Mediators and Collectors	OIIs could contribute to problem formulation.
	Institution and rules		OII could help in building shared institutions and rules to collaborate. OII could support SMEs in order to make an IP arrangement seen as “fair” from the perspective of potential participants.
	Resource allocation and strategic commitment		OIIs could help SMEs in defining the right resources and amount of them to be allocated to these processes. OIIs could support the top management to be open minded and to share the right amount of information with partners.
<b>Finding Participants</b>	Identifying participants with right characteristics	Connectors and collectors	OIIs could support SMEs in identifying participants or follow SMEs needs. OIIs could help the firm identify the right characteristics of participants.
	Motivating and retaining a critical mass of collaborators		OIIs could help SMEs define the best way to motivate the right partners for collaboration. OIIs could help SMEs create tailored incentives for partners, identifying the right mix of monetary and social or intrinsic incentives for any given task.
	Selecting the right participants		OIIs could support firms in evaluating the right partner. OIIs could play a role in knowledge evaluation to recruit participants.
<b>Collaborating</b>	Governance of collaboration process: organizing, monitoring, policing	Mediators and collectors	OIIs could play a role in the governance process of collaboration (organizing, monitoring, and helping in policing). OIIs could facilitate knowledge transfer and exchange during the collaborating stage of interactive coupled processes. OII could support SMEs in balancing the trade-off between revealing too much information in a task and providing the right detail of input for productive contributors. OIIs could mediate the trade-offs between partners and their changing reciprocal requests. OIIs could grant that co-creation is run for the benefit of all collaborating partners.
	Interaction platform and other tools		OIIs could make tools and services available to effectively run collaboration.
	Openness of firm attitudes, structure and processes		OIIs could help SMEs in assuming a more open mind-set. OIIs could suggest the most suitable structures

			and processes to SMEs for co-creation with partners.
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Table 1 – *THE FRAMEWORK*

Indeed, the proposed framework distinguishes three stages i.e.: i) defining; ii) finding participants; iii) collaborating, identifying key activities which OIIs could perform for SMEs at each stage of their OI interactive coupled processes. While the first two columns can easily be recognized as parts of the Pillar and West model (2014), the two remaining columns are the main contribution of this paper and will be discussed below.

#### i) Defining

An interactive coupled OI process starts with crafting the problem statement (Jeppesen and Lakhani, 2010; Sieg *et al.*, 2010) or having a well-defined strategic direction to follow the co-creation perspective. Therefore, the objective of the *mediator* OII is to sustain the definition of a task description attracting external contributors, as well as to consider the characteristics of such contributors. In other words, they support the SME in defining its strategic direction to reach their goals. This leads external individuals to submit either a solution proposal or simply indicate their interest in further collaboration or their availability to collaborate. Writing such specifications involves many challenges, such as defining the problem (and the scope), using terminology that will be clear to potential solvers with knowledge from other fields and preserving the confidentiality of a firm's current/future technology needs (Spradlin, 2012).

The various engagement rules and institutions, together with SME problem formulation must be defined. In dyadic OI – whether outside-in or coupled – firms acquire the rights to knowledge via a contract that assigns all necessary rights (Jeppesen and Lakhani, 2010). As the output control level within collaboration contexts might discourage rather than encourage participation by individual contributors, firms use a variety of selective openness strategies to maximize goal alignment while attracting outside participants (West and O'Mahony, 2008). Indeed, IP protection is a difficult task for SMEs to handle, as they have limited financial resources to pursue active patenting strategies. Furthermore, most companies believe that the approach should be customized according to the type of project, partners and objectives of the parties involved (Munster, 2011). They can obtain maximum value from collaborating with OII *collectors* as they solve their clients' problems (Colombo *et al.*, 2014a, p. 141).

Initiating a sustained process of collaborative innovation, a firm must commit their entire organization and dedicated resources to the process. Thus, what is often neglected is providing feedback to contributors. This becomes crucial to motivate future contributions and avoid developing a negative

reputation. Moreover, firms may be more successful integrating external inputs if they have explicit norms/procedures for OI. Here, OII *collectors* provide specialized services in supporting firms from a strategic and organizational point of view, even if they suggest solutions and support choices, when operating as consultants (Aquilani *et al.*, 2015; 2016).

## ii) Finding participants

Barriers to OI arise when SMEs start to interact and collaborate with external partners (Van de Vrande *et al.*, 2009), reaching the second stage of the framework, i.e., finding participants. Indeed, it is difficult to evaluate external ideas and partners rather than internal ones as there is much less first-hand information available on external players, their goals and as a consequence, their ideas (Menon and Pfeffer, 2003). In this case, the contribution of OIIs, and especially *connectors*, could be relevant because they could help individuate partners with the right characteristics and help SMEs to identify the best ones for each stage of its OI coupled process. This activity should take into account the nature of participants in a coupled OI initiative, which can span a broad range of players, as well as their ability and willingness to participate in co-creation efforts. The latter depends on “potential task involvement of participants, their creativity and the experience in generating new product ideas” (Füller *et al.*, 2009, p. 93).

In coupled OI, motivating external participants to engage in collaboration with the firm and emphasizing incentives (Dahlander and Gann, 2010) is another important task for OIIs. Not surprisingly, the pecuniary questions on OI are explicit about firm success, thus addressing monetary incentives. Because the supply of innovations to other firms corresponds to the inside-out mode of OI, initial work on OI has assumed that firms would be selling, licensing, or otherwise providing innovation in exchange for payment (Piller and West, 2014). Even though external contexts are often organized around financial incentives (Jeppesen and Lakhani, 2010), firms when collaborating with external communities, may find that individuals are motivated through non-economic (or indirect) incentives such as ego, reputation, notoriety and/or career visibility (West and Gallagher, 2006; Boudreau and Lakhani, 2009). OIIs, as *collectors*, should support SMEs in creating the right incentives when selecting participants. This should ensure to the SME to afford what is promised, obtaining the expected contributions from individuals involved in co-creation processes.

## iii) Collaborating

The key co-creation phase in the framework is obviously collaboration. Even after a decade, OI has a lot to learn from research on co-creation that has focused on how firms collaborate with external partners in an exchange of knowledge and benefits. This includes the creation and implementation of the



collaboration process (Prahalad and Ramaswamy, 2004) as well as providing tools (such as IT-enabled platforms) oriented to facilitate this process (Diener and Piller, 2010). In the collaboration stage of coupled OI, three areas emerge, i.e.: governance of collaboration processes, tools and dedicated infrastructures as well as internal attitudes and capabilities of firms involved in this collaboration.

From a firm's perspective, an important point is to define the span of control that a firm gives to external co-creators (O'Hern and Rindfleisch, 2010). This means that when setting up interactive coupled OI, defining the span of control is a key decision for OII *collectors* supporting these processes (Piller and West, 2014). Additionally, they help to bring about agreements between clients and solution-providers, who have been selected in the previous phase. Indeed, they assist their clients in conducting negotiations with solution providers and help set up non-disclosure agreements (NDAs) to stimulate discussions and more definitive arrangements pertaining to the transfer of technological knowledge/IP or joint knowledge creation (Roijsackers *et al.*, 2014). Furthermore, they can facilitate interaction with a solution provider, allowing participants to communicate through face-to-face talks, clarifying nuances of unresolved conversations.

At this stage, OIIs could also provide the right tools and dedicated infrastructures to SMEs willing to co-create, as they often do not have enough resources to create an *ad hoc* platform and deploy the tools necessary to collaborate on interactive coupled processes (Aquilani *et al.*, 2014). This is above all because they develop opportunities outside their boundaries and need to be carefully followed by the OI *collector*. Here, it is clear that internal attitudes and capabilities of SMEs willing to initiate interactive coupled processes need to be developed or externally acquired as necessary. Obviously, OI *connector* could support the firm by: 1) in helping its employees run the OI process; 2) in combining the SME's knowledge; 3) in providing the right consultants to collaborate with SME partners at all stages of the collaborating process. The choice between these alternatives, which can be considered almost as a continuum or a combination of them if and when suited, will obviously depend on SME resource gaps as well as on co-creation subject matter.

## METHODOLOGY

To fulfil our objectives, this paper is based on an explorative qualitative analysis aimed at providing useful exploration, description and interpretation of the phenomenon under investigation. Specifically, we used a case study approach, considering "an empirical inquiry that investigates a contemporary phenomenon within its real-life context; when the boundaries between phenomenon and context are not clearly evident; and in which multiple sources of evidence are used" (Yin, 1994, p. 13). Although the case-study method does not aim to generalize study populations (statistical generalization), as other

methods do (i.e., experimental approaches), it aims to generalize theories (analytical generalization; Yin, 2013). In this paper, the first Italian OII – Mercatodellinnovazione.it – was selected, being the only intermediary on the OI Italian scene (Aquilani and Abbate, 2013). Mercatodellinnovazione.it was founded in 2010 by Chiara Cremonesi and Fabio Montini as the first attempt of intermediation in Open Innovation processes in Italy. It aims at being a leader in supporting innovation processes for Italian SMEs, usually focused on closed innovation, with limited financial resources and mainly concentrated on Italian partners for innovation ([www.mercatodellinnovazione.it](http://www.mercatodellinnovazione.it); Istat, 2011). Thanks to its web-based platform, Mercatodellinnovazione.it mainly offers their customers the following services; innovation search, consultancy on innovation proposal preparation and contacts. The case study is based on accurate data gathering using different types of materials, methods and investigators (Denzin, 1974). Firstly, a preliminary desk research was carried out to identify and acquire information already existing in documents, internal reports, dossiers and articles in order to obtain a good understanding of Mercatodellinnovazione.it. Descriptive material and other documents available on the OII website were also examined. Secondly, field research through in-depth interviews with the OII entrepreneur who supported an SME in an NPD process was carried out, elaborating questions principally research-derived on which the above framework is based.

Given that data collection in case studies should not be driven by pre-formulated propositions (Eisenhardt, 1989), the theoretical framework was used here as a telescope (Berg, 1974), aiming to direct the researcher's attention on certain aspects of the evolution of agents' interaction and subsequent co-creation dynamics. The interviews were conducted in April 2016 following methodological prescriptions on data collection through personal interviews (Lee, 1999). To validate our qualitative analysis, the results were shown to the respondent for feedback, amendments and some changes were discussed. The results are presented in the following section.

## DISCUSSION

The paper describes the main challenges affecting OI interactive coupled processes initiated by SMEs and supported by the interviewed OII in the domain of the NPD. The articulation of this section reflects the distinction, underlined in the theoretical framework, in three different steps: i) defining, ii) finding partners iii) and collaborating.

i) Defining (problem formulation; institution and rules; resource allocation and strategic commitment).

Here, the questions were as follows: "how does mercatodellinnovazione.it contribute to problem formulation?", "how does mercatodellinnovazione.it contribute to building shared institutions and

rules to collaborate?", "how does *mercato dell'innovazione.it* help SMEs to define the right resources and how much to be allocated to these processes?", "how does *mercato dell'innovazione.it* support top management to be more open-minded and share the right amount of information with partners?". In the "defining" step, the role of the OII is fundamental for problem formulation, offering a global view of the innovation problem and the identification of solutions. OIIs, who almost always act as *mediators*, support SMEs mainly as a "patent expert" able to look at the nuances of the problem and to identify solutions, translating needs into product functionalities and promoting them to the right partners effectively and quickly. In building shared institutions and rules to collaborate, the intermediary stimulates information exchange and enhances dialogue among partners thanks to their ability to stimulate the use of a "common language".

Defining the right resources and how much to be allocated to the process is not easy. In fact, resource allocation mostly depends on the industry/activity or on the target market. Of course, the role of the OII *mediator* is crucial at this stage, broadening the limited view that the company usually has and providing a general view of the entire process. OII supports top management to be open-minded and in sharing the right information with partners. However, the opportunity for the OII to support this stage is influenced by the needs of the SME to initiate the OI process and by the curriculum, competences and personality of the OII. If companies are not conscious of the benefits and difficulties related to an OI coupled interactive process, the risk of looking at partners as if they were competitors is high. Furthermore, only a smart intermediary can support partners in facing the obstacles common to information sharing. The OII *collector* can make an IP arrangement seem "fair" from the perspective of potential participants assuming the role of "*trade d'union*" between partners. Because IP is a critical factor in OI processes, especially in interactive coupled processes, sometimes other professionals might be involved in the process supporting both the intermediary and the partners.

**ii)** Finding participants (identifying participants with the right characteristics; motivating and retaining a critical mass of collaborators; selecting the right participants).

For this stage, questions similar to the following were asked: "how does *mercato dell'innovazione.it* recruit participants?"; "how are external participants motivated by the OII to become engaged in collaboration?"; "how does *mercato dell'innovazione.it* identify the right mix of monetary and social or intrinsic incentives for a given task?"; "how does *mercato dell'innovazione.it* support firms in evaluating the right partner?".

How the OII *connector* recruits participants mostly depends on the extension of the network around the intermediary and on the opportunities related to the generation of the innovation demand and the offer

of exchange. The OII helps the firm in identifying the right characteristics of participants, thanks to information about partners from *ad hoc* meetings. External participants are motivated by the OII to engage in collaboration to update processes and information exchange within well-defined and shared deadlines. Maintaining contact with partners, or even simply to exchange basic information, is fundamental for external partners, who would otherwise abandon the process when there is no feedback.

Regarding incentives and, specifically, the mix of monetary and social or intrinsic incentives, the interviewed OII indicated that presently, these were mainly economic or consisted of material goods. This does not mean that these were the only ones considered effective. Furthermore, other kinds of incentives could be deployed to achieve objectives, although, these must be planned and quantified in a budget. Specifically, in identifying the right mix of incentives for any given task, the OII acts as a “*super partes*” able to give well-balanced guidelines in order to reach a satisfying agreement for all partners.

Concerning OII support for firms in evaluating the right partner, the width of this support depends on the specific competences the intermediary has of the product and the target market. If the intermediary is considered qualified, the company will include it even during the subsequent selection process. The OII *collector* could play an important role in knowledge evaluation of recruiting participants based on competences of the target market and the innovative product. This is due to the fact that firms rely on the *collector* when facing problems that require a quick and effective exploration of a large number of alternatives.

**iii)** Collaborating (governance of collaboration process: organizing, monitoring, policing; interaction platform and other tools; openness of firm attitudes, structure and processes).

Here, the questions asked were as follow; “what roles does mercatodellinnovazione.it assume in the governance process of collaboration (organizing, monitoring, helps in policing)?”, “what kind of tools and services does mercatodellinnovazione.it provide to effectively collaborate?”, “how does mercatodellinnovazione.it help a firm assume a more open mind-set?”, “how does mercatodellinnovazione.it support a firm in creating the right structure and processes to collaborate and co-create?”.

Within the governance of the collaboration process, the role played by the OII depends on the kind of established agreement and on the level of interaction that the teams are able to deploy. Agreement is necessary in order to define the activities and objectives of the project. Furthermore, agreement employing direct interaction with partners helps to develop the trust necessary to face the next challenging stages of the process.

The best way to support knowledge transfer and exchange is by activating and sustaining continuous and structured information sharing. Remaining in touch in the long term is possible thanks to new technology. In order to nurture a structured contact, the role of the person or team is crucial in defining a timeline establishing deadlines, to make lists, achieving goals, problems etc.. Only in this way can the project achieve common goals. In balancing the trade-off between revealing too much information and providing the right input for productive contributors, especially when the project involves SMEs, the identification of goals, timing and a realistic budget by the OII are strategic issues. Subsequently, it is important to sign a Non-Disclosure Agreement (NDA) in order to protect the involved partners, simply to declare that the company has an interesting project to create and that it considers the intermediary a good partner to discuss it with.

With the role assumed by the OII in mediating trade-offs between partners and their reciprocal requests, the intermediary must have a strategic view of the problem. The role of *mediator* assumed by the OII requires a clear notion of what the goals are. *Mediators* must possess this requirement and competence in order to follow the process to its conclusion, during which unexpected events will probably emerge.

Regarding the kind of tools and services the OII offers to collaborate effectively, a ready-made tool-set of specific services for SMEs does not really exist. The scope of all kinds of information and communication systems allows both knowledge-acquiring and sharing among partners to improve. These tools are useful to check the trends, goals and economic performance of the innovative processes. Furthermore, partners' expert in using digital instruments can also use social platforms to share documentation.

Finally, we can state that the OII helps the firm develop a more open mind-set. The OII itself is an agent promoting OI techniques and values – for example, the values of opening up, discussing, identifying common goals and collaborating. The OII is an “ambassador” of these values. In order to transform these values into effective and productive behaviour and to achieve goals, a professional background combined with managerial and communication skills are necessary for the OII to remain in contact with the team. OIIs can also support the firm by suggesting good structures and processes in order to collaborate and co-create. The experience and knowledge acquired by the OII through involvement with the company are also necessary to support the firm at this stage too. This gives the OII the opportunity to be involved. On the other hand, the role of the intermediary will mainly be the role of a consultant.

## CONCLUSION

This empirical study has spotlighted some interesting insights into the role of OIIs in OI interactive coupled processes initiated by SMEs in the NPD domain. It clarifies the various ways in which OIIs could intervene in supporting SMEs, also by integrating its knowledge base and resources or acting as a consultant. It is therefore possible to say that, at least in three of the process stages of the proposed framework – defining, finding participants and collaborating (Piller and West, 2014) – OIIs, support SMEs in their co-creation processes thanks to their capabilities. From the empirical case-study, it would seem clear that joint knowledge creation evolves first between the SME and the selected OII and subsequently also includes other partners involved in a circular process. The OII plays the crucial role of both mediator and integrator of other resources to be successful in the whole co-creation process. Additionally, focusing on different types of OII – *mediator, connector and collector* –, the analysis suggests that the OII *collector* could play a relevant role in developing and performing various key activities in the coupled processes, offering numerous services oriented to explore alternative solutions regarding problems faced by clients as they arise.

These insights could help firms, especially SMEs, to choose OII types, whilst also considering their resource limitations for co-creation activities, and to identify which OII could be more helpful in developing NPD projects. The case study also has some interesting managerial implications for OIIs, giving insights into the challenges emerging in supporting co-creation activity. In many cases, the respondent showed how the effectiveness of the intermediary activity depends on the width of its experience and on its own personal reputation. This is a crucial aspect which could influence OII support for top-management to be more open-minded, in evaluating the right partner for innovation and in suggesting the correct structures and processes for SMEs to collaborate and co-create. From a theoretical point of view, the paper adds insights into research on OI coupled processes, OII's potential contributions to OI processes and OI in SMEs, leading to a better understanding of co-creation emergence and development in OI interactive coupled processes supported by OIIs initiated by SMEs. Obviously, this study has certain limitations that point to further research opportunities. Because of the exploratory nature of a single case-study analysis, it is not possible to statistically generalize results to all corporate populations. Therefore, further confirmatory empirical analyses using for example, representative samples of NPD projects developed by SMEs through OIIs supporting them in interactive coupled processes should be carried out. What is missing in this empirical research, is therefore the SMEs point of view. It would be interesting to carry out through involving SME entrepreneurs who collaborate with the OII, thus giving relevant insights also for OIIs. Indeed, future avenues of research could include collecting qualitative data through direct interviews of SMEs' entrepreneurs, with explicit reference to real cases of NPD, on which this paper is focused on.

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## IMPACT OF ENTREPRENEUR & ENTREPRENEURIAL PROCESS IN CREATIVE WORK INVOLVEMENT WITHIN ORGANIZATION

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### ABSTRACT

Today, more and more specialists consider studying and approaching the concept of entrepreneurship, which became central in the market activities. The main concerns of both managers and leaders no matter the size of their business refer to those successful organizations that identified and apply entrepreneurship skills to their daily work. Innovative entrepreneurial skills became the core of economic development, economic growth, increasing productivity, improving international competitiveness, and greater mobility in the world's markets to get the most benefit of their efforts. They also contribute to the development of an entrepreneurial culture at all organizational levels and to do creation of entrepreneurial teams in the organization. In fact, in order to be considered creative and successful any organisation needs creative and successful people working for it.

The purpose of this paper is to study the skills, ability, and challenge that an entrepreneur faces during the entrepreneurial program within the organization; to better understand the needs and the importance of the entrepreneur and the impact of the entrepreneurial process in the organization's development and economic growth in the business world.

**Keywords:** *Entrepreneurship, entrepreneur, innovation, entrepreneur's impact on the organization, models and type of entrepreneurial process.*

### INTRODUCTION

One of the distinguishing features of today's economy and global companies is exposed to rapid changes in this competitive world. Most traditional organizations, which are not too far from bankruptcy and dissolution, can create an influential evolution for them by bringing an entrepreneurial process and an innovative entrepreneur in all levels of their companies. In the current situation where most of the large organizations and holding companies have serious problems because of the bad economic situation, the best rescuing way out of this disaster is by adopting an organizational entrepreneurship and by having entrepreneurial leaders.

In fact, those countries can be successful economically and take the risk, by improving the productivity and being successful in terms of competition with other companies by innovative

entrepreneurs and utilize organizational entrepreneurship. Can say that the entrepreneurship is a symbol of innovation and led to success in commercial affairs and business. Entrepreneurs are pioneers of this new idea related to the basic changes in the structure of the administrative system of the organization for the increase of efficiency and effectiveness organizations had to pay the market value of their creative activities and new ideas along with the freedom of action and the impact of entrepreneurial economy, they need employees who follow the new opportunities and constantly improve their work environment.

Particularly in a knowledge-based economy, organizations face rising needs to not only increase productivity, but also creativity among their workers and employees. The speed at which technologies change, as well as globalization and the rapid increase in new competitors, domestically and internationally, cause a sense of distrust towards traditional management practices in organizations between the workers and leaders, exit a large numbers of the best works of the organizations in order to start an independent entrepreneurial activity, all together putting pressure on companies to be first on the market, quick at solving problems and developing new groups of individuals who are able to work together as creative team and of course the leaders can play an important roles for the employees, in terms of the innovation and creativity.

## **ENTREPRENEURSHIP AND ENTREPRENEURS**

Entrepreneurship is the concept and the most effective economic potential in world history, has emerged about three decades ago and has been proposed and consists of this category, being carried out a lot of advanced in the entrepreneurial education process. Most people believe that the entrepreneurial process is an engine of economic development in emerging countries, although a few people think entrepreneurship can be a scary process because it's risky and there is no guarantee.

The entrepreneur might lose money for the first few years, but there are three main reasons for developed countries to pay attention to the entrepreneurship process: increasing wealth, technology development and productive employment, while this concept is wrong in my country (Iran) and simply become it is synonymous with job creation and only entrepreneurship can solve the employment problem in order to go forward.

In the late '70s in many developed countries a wave of small businesses and self-employed people emerged due to a change in the values and attitudes of society and demographic changes and because of the deep impact of this phenomenon many studies have been done in four perspectives of economics, management, sociology and psychology. Although many researchers -like any other human science concepts- put an effort in order to have a definitive definition of entrepreneurship however this is difficult and even impossible.

The evolution of this concept, self-contained, many interesting points and features many factors such as risk-taking, innovation, and the creation or restructuring of a single economic, social, personal satisfaction and independence to this concept. The best compliment that can be given is that innovation and entrepreneurship from the process of taking advantage of opportunities, the efforts and persistence combined with financial risk, psychological, social and motivated financial gain, so that achievement, personal satisfaction and independence occur.

In addition to individual entrepreneurs, during the recent decades, along with the concept of corporate entrepreneurship, another concept - intrapreneurship – promotes the idea of coordination with the social and economic environment changes. Thus, a new definition of the entrepreneur created an idea that he takes responsibility for innovation within the organization is responsible.

The entrepreneur may both innovate and invent, as he is always someone who knows how to turn an idea into a profitable reality.

There are several aspects common to all definitions of entrepreneurship, risk-taking, creativity, independence, the best definition of entrepreneurship is; the process of creating something new and acceptable all the risks and benefits of it. In other words, entrepreneurship is the process of creating something new and valuable by devoting the necessary time and effort and taking financial risks, psychosocial and achieves personal satisfaction and financial independence for reach to the goal. This definition has four basic aspects:

- Entrepreneurship requires the creation process for creating something valuable and new. This should create a contact for entrepreneurs and the creation of value has been done for him.
- Entrepreneurship requires thinking about the inevitable risk during the process.
- Entrepreneurship will have more personal satisfaction with the independence work.
- Entrepreneurship requires dedicated time and effort.

Entrepreneurship is also considered to be a vital component in the process of economic growth and development for various reasons as it is a mechanism by which society converts technological information into products and services (Shane & Venkataraman 2005).

Entrepreneurship can be in different units in an organization. An organization can create an environment for the workers and employees to have the best performance in the entrepreneurial task. In entrepreneurship organization, the entrepreneur always has his own resources and relies on what people are doing, what they need more the letter relying on themselves with the last measurement criteria, but with the next standard of comparison.

Entrepreneurship is not limited to the specific kind of organization or business size; every business and any organization small or large, new or traditional established can apply the entrepreneurship process, and entrepreneurship can act as a synonym for change in small or new companies as the big

vehicle in the competitive world. Entrepreneurship can work as the key factor for innovation and for the creative process, to improve the productivity, economic growth and create many new jobs in all fields.

To increase the benefit of utilizing the entrepreneurship process, one needs to be under the supervision of educated and trained leaders, since leaders have the biggest impact and effects in each organization in the process of entrepreneurship are leaders. In fact, the leaders can play a vital role in this process at any kinds of organization.

Entrepreneurship includes formal and informal activities that aim to create new businesses, new products and processes and to stimulate market development. New research on the definition of entrepreneurship and business features three concepts: renewal strategy (strategic renewal / restructuring the organization), innovation (offering something new to the market) and enterprises within the enterprise (corporate entrepreneurial activities that lead to business which are new within the parent company).

They tend to be entrepreneurial in response to the rapid increase in the number of competitors, the lack of trust in the traditional business, the massive movement of the elite to the creation of independent small businesses, the international competitiveness by an increase in productivity need, an increase in well. The new revolution in new companies to facilitate and appreciate of intrapreneurship is on-going.

Today, by developing technology and increasing communications among people, we can see different types of entrepreneurship referred briefly as follows: (1) Independent entrepreneurship, (2) Organizational entrepreneurship or intra-organizational entrepreneurship, (3) Corporate entrepreneurship, (4) Public entrepreneurship, (5) Tele- entrepreneurship, (6) Social or non-profit entrepreneurship, (7) Informational entrepreneurship, (8) Co entrepreneurship, (9) Techno entrepreneurship, (10) Women entrepreneurship. Different relations could also emerge with analysis between:

- *Entrepreneurship and employment* - entrepreneurship in job creation also plays an important role in developed countries, nowadays half of the employees are working in small businesses.

Small businesses create most new jobs and the share of these businesses in the labour market is on the rise. Since 1980 more than 34 million small businesses created jobs in the American economy while the number of employees in large companies in these countries has been decreased.

- *Entrepreneurship and economy* - the impact of entrepreneurship on society is very broad from Social value changes to the economic growth. The researchers have introduced various changes that entrepreneurship, culture in a community reviewer and its effects are discussed from different perspectives, some of the effects mentioned include several aspects and processes, such as: ■creating

wealth, employment, creation and development of technology, encouraging investment, identification, create and develop new markets, increasing prosperity, and organization of an effective use of resources. The positive implications of the entrepreneurship development in the country's economy are taking into consideration more than anything their effects, such as job creation and economic growth. According to researchers, entrepreneurs achieve an economic system of static balance and prevent opportunistic behaviours due to their aggressive action to provide economic opportunities for the entire system. Countries in which entrepreneurial activity is higher due to the nature of entrepreneurship and have ability to adopting these changes, able to earn a better position in the world economy. Research has shown that economic growth is positively correlated with the level of entrepreneurial activity. For example, (GEM General Entrepreneurship Monitor), which annually entrepreneurial activity and its impact evaluated in different countries and in more than 20 countries have already done, this result is obtained the rate of economic growth of a country has a significant relationship with the level of entrepreneurial activities.

- *Entrepreneurship and the growth of technology and opportunities:* Entrepreneurship opportunities exist within an economy at any given time waiting for the entrepreneurs exploit them (Kirzner, 1973). More than 67 percent of innovations in the field of technology and 95 per cent of innovations in the field of industry and innovation works occurs and led to increasing consumer choices in the market, attracting a large number of consumers and increasing demand and purchase, increasing health, facilitating communication and enhancing the quality of life of human beings. Most of the entrepreneurs have created a new generation of products that can be used from PCs, mobile phones, buying from the internet and by making use of software industry and so forth.

- *The necessity of entrepreneurial education in global developments* puts entrepreneurs at the forefront of technological development and economic development. Education, in entrepreneurship is one of the most important aspects in the development of special interest is located. According to many last type of research that show many characters and the skill of entrepreneurs are acquired and not inherited and entrepreneurial education becomes one of the most important activities in many of the universities. (Solomon, Duffy, and Tarabishy, 2002) conducted one of the most comprehensive empirical analyses on entrepreneurship education. In their review of entrepreneurship pedagogy, they stated: *a core objective of entrepreneurship education is that it differentiates from typical business education. Business entry is fundamentally a different activity than managing a business* (Gartner & Vesper, 1994); *entrepreneurial education must address the equivocal nature of business entry* (Gartner, Bird, & Starr, 1992). To this end, entrepreneurial education must include skill-building courses in negotiation, leadership, new product development, creative thinking, and exposure to technological innovation (McMullan & Long, 1987; Vesper & McMullen, 1988). Other areas identified as important for entrepreneurial

education included awareness of entrepreneur career options (Rik Donckels, 1991 Hills, 1988), sources of venture capital (Vesper & McMullen, 1988; Zeithaml & Rice, 1987), idea protection (Vesper & McMullen, 1988), ambiguity tolerance (Ronstadt, 1987), the characteristics that define the entrepreneurial personality (Hills, 1988; Hood & Young, 1993; Scott & Twomey, 1998), and the challenges associated with each stage of venture development (McMullan & Long, 1987; Plaschka & Welsch, 1990).

The main purpose of entrepreneurship education has, in general, three functions:

- a) Motivation - consisting in a simulation of motivation in those workers which they have good skills to understanding better of their ability and more motivate them. The main tasks of entrepreneurship education incentives such as a desire to earn more money, achievement, independence, desire to build something new, do not accept the existing practices, the lack of a social base that deserves etc. It causes the person to get on the path to becoming an entrepreneur.
- b) Fostering features - meaning cultivating different new qualities that are required, but not inherited by different people. Sometimes, there are people some people that in a specific environment can acquire and develop more qualities required to become a good entrepreneur through training programs. These new features may be linked to other qualities obtained by education: creative thinking, enhancing the risk appetite, increasing tolerance for ambiguity, loss of confidence, opportunity recognition.
- c) Training: specific tutorials could get several dimensions: a) Before entering or setting up a company, b) while within the company, c) After founding a new company (corporate governance). Prior to founding a new company, an entrepreneur should know to set up a business and its steps, how to learn teamwork and communication skills, and so on. Since founding the field of finance, market knowledge, management principles, insurance, economics, law, legal affairs, knowledge and expertise necessary to manage the development and growth business, finding new ways to compete and maintain position in the market. Finding new markets requires entrepreneurial skills too. All of the above objectives and to motivate people and create new entrepreneurs, informing, guiding and encouraging entrepreneurs to acquire the necessary skills and provide the necessary training for entrepreneurs the skills they need to take and pass the courses for entrepreneurs who have no history of success and provide the environment for them.

## ENTREPRENEUR

Some questions are looking for answers when the concept of entrepreneur is analyzed: what is the best definition of an entrepreneur; what are their economic characteristics making them distinct from other actors of the market. Not much time to repeat the words of entrepreneurship in various media

and everyone to his own taste of the new term to refer as the managers, successful people, financiers, investors, exporters, brokers and traders use it. Although each of these people may not be entrepreneurs, but none applies fully to this concept. Who is really an entrepreneur? We will take a look at history definition of it, The English word entrepreneur is a derivative of the French verb 'entreprendre', which means literally, to "undertake". Many literatures have dealt with the definition of entrepreneurs from different perspectives. In its history, entrepreneur was first used as a technical, economic term by the 18th-century economist Richard Cantillon, who defined it as an agent who buys factors of production at certain prices in order to combine them into a product with a view to selling it at uncertain prices in future. A little further definition was developed by Jean-Baptiste Say, an aristocratic industrialist, who associated entrepreneur with the functions of coordination, organization and supervision. According to his theory, an entrepreneur is one who combines land, labor and capital and then, produces and sells the product in the market to make profits for him or her after interests, rent and wages are paid off. Entrepreneurs are creative people with new ideas and identify new opportunities to mobilize resources to create a new, innovative organization and business even with growing the venture, but they prefer activities with moderate risk. In other words, they accept the responsibility of activities in which there is no possibility of success and it is risky, but the entrepreneurs must dare to take the risk and have their own destiny, even in uncertain conditions, he can consider all aspects to solve problems and reduces mistakes in the process, with all the effort, knowledge, skills and capital. Entrepreneurs are a confident person and they are known for their confidence. They believe that they can achieve all of their expectations. In other words, they are more successful than they seem. Entrepreneurs are innovative and constantly use new ways and methods in the new situation. They use their creativity, imagination and their own resources to find new ways to put together things and make new goods. They are full of questions. Entrepreneurs do not feel fatigue and looking for solutions to solve the problems quickly. They know how to work effectively, to achieve their goals. They are handling a lot of task and duties such as: being aware about the environment and other organization's position, organizes work and production, innovation and introduce new products in the market, decides, planning for the future, selling the goods and increase the profit and investment. An entrepreneur is someone who perceives an opportunity and pursues it to make a perfect organization. He is looking for the profit and grow the business with the establishment and ruled the main characteristics of innovation and strategic management.

Common grounds of the entrepreneurs: Risk taking (moderate and calculate risk), needs for success, innovation, creativity, new idea, confidence, diligence, idealism, pioneer, opportunity-oriented (seeking opportunities), result-oriented, futurism. In a current world managers and entrepreneurs more than others should know the basic principles of success and work for it, because in the

uninterrupted process of globalization, challenges are important things in the business trade and economy, like many other things. Here describes some characteristics of the entrepreneurs that will be considered by applying the principles of success have been able to increase the profit in business and persistence at the challenges in business activities. This feature helps each individual and governmental entrepreneur to have a positive performance.

**- Prospective and vision:**

Entrepreneurs have completely transparent, obvious and free from any ambiguity vision and therefore it is transferable to others. Having such a vision can help entrepreneurs consistently and without confusion and directly toward to the target. Entrepreneurs are looking to see the reflection of their performance for awareness of the situation to reflect their performance is good or bad. Without this information it is very difficult to continue working for them. Entrepreneurs are goal oriented in everything they do, they are always thinking about their long-term goals and other thing they do is in the one line to reach the future goals. They always have something to follow the target and goals because of this, they call entrepreneurs ambitious.

**-Determination:**

Another distinctive feature is the entrepreneurs determination, that will give entrepreneurs necessary energy and commitment to succeed, the entrepreneur is determined renunciation any new ideas and opportunities and ignore other job offers and in contrast will stand in what have to be chosen by the more certainty, this certainty and determination in the process of setting up a decision can protects entrepreneur against the impair of any relatives and acquaintances and also cannot be affected by others uncertainty or a doubt and even others uncertainty will resolve by this determination.

**- Motivation:**

The need for self-actualization is one of the most important motivations of entrepreneurs in fulfilling their vision. The result is a strong need on the path towards the goal, everything else in lower priority occurs. Personal relationships, interests outside of the landscape or financial projects, all of which is compared with the target, priority will vanadium lower profits are rarely motivational for entrepreneurs because money alone cannot make all the efforts needed to start a business it takes an entrepreneur, although entrepreneurial activity is a good benchmark for measuring success.

**- Positive thinking and optimistically:**

A positive attitude is the primary embodied mind that initially it'll grow points and the positive things. The positive thinking is the greatest element for improving the entrepreneurial capabilities. Many successful people, cleverness are much higher than others, but we have to call them "genius". Certainly a positive mind of these people, force them to think more and more and this power more efficient and more accessible to innovate a new product. In fact, with free minds from any fear or



doubt and with the positive vision, positive thinking and the realization of the hopes and dreams, the entrepreneurs will be more creative and inventive, this creativity is rooted in positive attitude, with this positive attitude, they dare to face the problem and before they lose opportunities and situations - which is not in the control-, they will try to solve and fix it.

**- Devotion and self-sacrifice:**

Entrepreneurs have dedicated their lives to work. They are very hard working and exemplary perseverance. They work towards their goal, with clear vision and combine it with optimism and risk-taking. Entrepreneurs dedicate themselves to the fulfillment of their plans, visions, and dreams, and that tenacity of purpose generates electricity throughout the whole organization. One of the biggest reasons that companies fail is because they lose focus on their work. One of the characteristic of entrepreneurs is devotion, he loves his work and his duties in fact, this kind of love can sustain the entrepreneur to go forward and reach to the goal, even in the toughest situations and will help the entrepreneurs to work more efficiently and focus on their work and increase the productivity. Entrepreneurs are individuals or groups that operate independently or from on organizational systems, establish new organizations or innovate and renew the organization that has already existed (Chrisman and Kellermanns, 2006).

**-Risk bearing:**

Entrepreneurs have calculated the risk, they have to decide deliberate to participate in economic projects with high attention, care and make the condition to gain the most benefit of accepting this risk and then contribute, therefore medium-risk are more attractive for entrepreneurs. For entrepreneurs there is no definite and certain expectation of benefit of producing new products and they are facing many risky situations while working in a competitive business world. To confront and deal with all risks an entrepreneur should have a high risk tolerance, if any mistake happens the individual entrepreneurs is responsible for it, therefore he needs to have sufficient capacity to take, bearing and accepting the risk.

## **THE ROLE OF UNIVERSITIES AND EDUCATION CENTERS IN IMPROVE AND DEVELOP THE ENTREPRENEURS**

The most reason for developing and economic growth in the country is the quality and quantity of the human resources education and their training programs. Nowadays the developing countries, try to concentrate on the enhancing the innovation in the country and develop and growth the entrepreneurs and entrepreneurship process in the system, for this aim they try to have a considerable change in the education system and implement the new orientation in the education system to growth the number of entrepreneurs and innovators in the schools and at universities. In

the late 50's, Japan was the first country started to promote the function and the culture of entrepreneurship training at the high school level and then they improve it in the high levels of training at universities and others education centers. Between 1970 and 1992 more than 96% of industrial innovation that developed and promote the Japan's position in the global economy was with the entrepreneurs performance and entrepreneurship process. The entrepreneurship training policy has the direct effects on the quantity and quality of the entrepreneur's supply in the society. That is why in many countries, particularly the developed countries which they have been overcome the barrier of the entrepreneurship implementation, the government started to develop and promote the potential of the people, and enhance the quality of education systems and training courses. Education is very important, especially for the small producers.

The implementation of this policy follows the variety of purposes and aim such as, identify the opportunities and profitability, exploitation of them, understanding the new technology and implement them in the system and apply the new method and practice in the business and management. Education can be in two models: 1) long term, such as education in high school and after high school in university 2) short term such as courses and training classes .

## CONCLUSION

There are many research and studies about the process of entrepreneurship and entrepreneur, in this research after a brief description about the entrepreneurship process and entrepreneur, tried to clearly show the need and importance of utilizing the entrepreneurship in organization and discover the relationship between developing the economy by using the innovative way to make products among the organization and effectiveness of it. Researched showed that the undeniable importance of entrepreneurship and addressing it in the organizations, is the current needs of all countries and made clear the role of entrepreneurship and entrepreneurial development initiatives addressing the main part of the program countries. So for developing the entrepreneurship process and utilize successful entrepreneurial programs and increase the innovation in the country, we need to pay more attention to educational organization system such as universities as the main centre of education system in any country to grow and educate more entrepreneur skills. Universities play a vital role to creates activates in support of entrepreneurship and entrepreneurs, an add-on to business education, with supplying an elective course and training courses, training new entrepreneurs, workshop and finally as a concentration, major or a program, to guiding entrepreneurs toward gaining the necessary skills and provide them with the necessary skills to raise the level of their success in their businesses. It is teachers and professors who presently must be approve by an established faculty from other fields and courses currently fit into the existing curriculum, grading system, and calendar of students and

educate, promoting the spirit of entrepreneurship, entrepreneurial culture and creating the opportunities for creative people and encouraging them to focus on their ability. Entrepreneurship is new and it is about continual innovation and creativity. It is the future of business universities and it should begin to move into all -privates and governmental- organizations and can design more customized entrepreneurship systems that better maximize wealth creation for organizations, for their managers (Kuratko et al.), for staff (Monsen, 2005; Hayton, 2005), and for society (Schendel & Hitt, 2007) to the developing countries and creating the large number of entrepreneurs.

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## SOCIAL ENTREPRENEURSHIP IN THE CZECH REPUBLIC

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### ABSTRACT

The paper describes the up-to date situation in social entrepreneurship in the Czech Republic. The aim of the paper is to analyze incidence of social enterprises in the Czech Republic and analyze them based on chosen variables. In the theoretical part, literature review and various legal forms of enterprise are presented. The secondary data from the Czech Social Enterprise website are used. The sample consists of 219 companies registered in the website's database by 22nd March 2016. Quantitative approach with descriptive statistics used describes social enterprises according to their distribution in Czech regions, date of establishment, legal form, activity of social enterprise, and frequency of offering indemnification. Main findings are that perception of social entrepreneurship in the Czech Republic is often narrowed down to issues of employment of the handicapped or otherwise disadvantaged people. Most social enterprises are registered in the capital city of Prague, South Moravia, Olomouc, and Moravia-Silesian region. Distribution of social enterprises in the Czech Republic is uneven and for instance in Karlovy Vary region, social enterprises are represented very poorly. Most social enterprises were founded between the years 2007 and 2013, focusing on business areas like gardening and cleaning services, food production, sales, and provision of accommodation and food services. Finally, a case study of international NGO Ashoka which consists of more than 1 800 social innovators is presented. The main contribution of the research is description of the current state of social innovators in the Czech Republic and its structure. The originality of the paper is based on uniqueness of gaining and analyzing data about social entrepreneurship in the Czech Republic as such data has not been systematically collected or analyzed.

**Keywords:** *social entrepreneurship, Czech Republic, Ashoka*

### INTRODUCTION

The term "social economy" was first used in France in 1830 by Charles Dunoyer (Dohnalová, 2011). There is a space between the state and its establishments and the market and its institutions, this gap is called the third sector or social economy. Social economy is on the border between the state or public sector and the private sector, i.e. for-profit market. It is a range of public goods which the market is not

capable of distributing or is not willing to do so, and in the meantime the state waives their distribution (Hunčová, 2007). Social economy produces goods of general interest (common goods) with positive social externalities (effects) with impact on social capital (in Hunčová, 2009). In literature, the third sector is also called social economy, the social sesctor, non-profit sector, voluntary sector, community sector, or civic sector (Dohnalová, 2006).

In almost all industrialised countries, we are witnessing today a remarkable growth in the 'third sector', i.e. in socio-economic initiatives which belong neither to the traditional private for-profit sector nor to the public sector. These initiatives generally derive their impetus from voluntary organisations, and operate under a wide variety of legal structures. In many ways they represent the new or renewed expression of civil society against a background of economic crisis, the weakening of social bonds and difficulties of the welfare state (Borzaga, Defourny, 2003).

The aim of this paper is to describe the current state of social entrepreneurship in the Czech Republic. For this purpose, the legislation concerning companies engaged in social entrepreneurship was presented first. The practical part presents division of social enterprises by legal form of business, by foundation, by distribution in the regions of the Czech Republic, by activity of social enterprise, and by providing the so-called facultative compensation.

## LITERATURE REVIEW

In the Czech Republic the awareness about the content of social economy is generally low. One of the reasons may be lack of legislative framework and absence of authority the agenda of which would be social economy. Nevertheless, studies show that social economy and social enterprise exist in the Czech Republic (Dohnalová, 2011). It is interesting that most Czech social entrepreneurs independently agree that in the Czech business environment the term "social" arouses rather negative connotation, and that the expression "social innovation" may appear misleading and incomprehensible. In contrast, in Western Europe and the USA the adjective "social" rather evokes positive connotation. It occurs frequently in relation with expansion of the concept of corporate social responsibility which acquires, to some extent, even strategic character. This assumption is confirmed by the expansion of new hybrid cooperatives in the UK, the reviving debate about the role of cooperatives and social economy in spreading social entrepreneurial movement in France, and the growing popularity of master degree majors focusing on social entrepreneurship in the American approach of contemporary management education. Such linguistic oddity largely prevents not only the development of cooperative business in the Czech Republic, but it also represents a barrier for social entrepreneurs and social sector of the economy as a whole (Polícar, 2010).

Due to different ways of defining social economy, there is no accurate way of measuring its economic contribution (Dohnalová, 2011). However, some governmental and international institutions are showing an effort to create a certain procedure or standard of impact measurement of the social economy. For instance, the European Commission has developed such an initiative based on the following assumption. Where public funding is used efficient delivery of outcomes, or savings in public spending must be demonstrated. A consistent way of measuring social impact is therefore needed. In October 2012 a Social Impact Measurement expert sub-group was set up by the GECES ("Groupe d'Experts de la Commission sur l'Entrepreneuriat Social") in order to advise on a methodology which could be applied across the European social entrepreneurship sector (European Commission, 2014).

Social economy is a broad and multidimensional topic. The actors of social economy may or may not participate in the market and achieve profit or even loss, they also may or may not benefit from philanthropy or public sources; but always through redistribution of profit they achieve not only individual, but collective benefits within their own apolitical civic consensus of objectives and means (Dohnalová, 2011).

The objectives of social economy put focus on people. We may imagine social or ethical economy as the economy of "people for people" unlike the economy "for the market". The economy and the people participate in the market not only for profit but also other values (livelihood, stability of the economy, social stability). Market economy can also be regarded as social in case it produces positive social externalities, as well as the public sector, especially if it supports the development of social economy indirectly. The aforementioned inclusion underlines the potential ethical values hidden in every economy and even possible reciprocity of the private and public sectors in terms of achievement of (social) benefits (Hunčová, 2007).

Social economy is the way how citizens economically develop their own solidarity through collective initiatives and their willingness, and modernize the current welfare state while maintaining coverage of social risk at an acceptable level, as well as providing social services which are currently not covered by the state, market, or communities (in Hunčová, 2009).

Social economy can also be regarded as means by which the state returns the responsibility for social risks back to the citizens and creates certain supportive conditions like law and partnership in decision making. If an individual becomes involved in a difficult life situation (threatening his social status, exclusion from the labor market), it is possible to rely on the assistance of the state or charity. Whereas the concept of social economy assumes that such individuals are given a helping hand so that in the context of the civic sector and mutual self-help they are able to actively resolve their situation by themselves (Hunčová, 2007). The persistence of structural unemployment in many countries, the need to reduce state budget deficits and to keep them at a low level, the difficulties of traditional social

policies and the need for more active integration policies have naturally raised the question of how far the third sector can help to meet these challenges and perhaps take over from public authorities in some areas. Of course there is no simple answer to this question, and the debate is still wide open (Borzaga, Defourny, 2003).

Public sector organization	Criteria	Entity of social economy
No explicit aim.	Aim	The main aim of a social enterprise is to serve its members, community or society as a whole.
Democratic control over the organization is not required.	Control over organization	Excludes entities that do not operate on democratic principles.
Any profit distribution is unacceptable.	Use of profit	Limited income redistribution is permitted.

Table 1. *Different attributes of public sector organizations and entities of social economy according to criteria.*

Source: Dohnalová (2011)

According to Schumpeter, a social enterprise is a socially oriented, implemented, innovative intent achieved through economic activity in the presence of real economic risks (Schumpeter, 1934). Organisation for Economic Cooperation and Development (OECD) defines social enterprises as any private activity conducted in the public interest, organized with a business strategy the main objective of which is not to maximize profit, but to achieve certain economic and social objectives, and which have the capacity to bring innovative solutions to problems of social exclusion and unemployment (OECD, 1999).

The concept of social enterprise is built on a self-governing partnership of the public and the private social sector while implementing policies mentioned below (Hunčová, 2007). Social enterprises meet the employment policy, social cohesion policy, regional development policy, and sustainability policy. Employment policy means providing equal opportunities for disadvantaged individuals in the labor market. Supporting the growth of social capital and social inclusion, as well as provision of social services are included in the social cohesion policy. Regional development policy should be understood as local economic capital growth through support of employment, entrepreneurship, and involvement of local resources. Support in care for the environment, cultural heritage, landscape, and inter-generational solidarity is the subject of sustainability policy (in Hunčová, 2009).

A social enterprise is a business entity that operates in the market while offering employment of disadvantaged individuals. Social enterprise primarily caters local needs and uses primarily local resources (in Hunčová, 2009). Social enterprises are majorly small and medium businesses. At least a minimum amount of unpaid labor is often present in their activity as for instance volunteering or self-help. Voluntary membership and openness are the core qualities of a social enterprise, and on the

contrary, its main goal is of a non-profit character and not primarily return on capital. The enterprise is responsible to those who it serves (Hunčová, 2007).

Social enterprises, regardless of their legal form, can generally be identified and distinguished from voluntary organisations through a set of criteria or features, such as those identified by the EMES network ([www.emes.net](http://www.emes.net)). These criteria are: a continuous activity producing goods and/or selling services; a high degree of autonomy; a significant level of economic risk; a minimum amount of paid work; an initiative launched by a group of stakeholders; a decision making process not based on capital ownership; a participatory nature, which involves the persons affected by the activity; limited profit distribution; and, an explicit aim to benefit the community ([www.emes.net](http://www.emes.net)). These criteria have to be seen and applied in an open and flexible way (OECD, 1999; Mouves, 2012).

Social enterprises are autonomous (self-governing communal citizen initiative), voluntary, and undergo significant economic risks while meeting economic and social objectives (Dohnalová, 2011). Innovations in the means of providing services to citizens, especially socially excluded citizens, who are more difficult to integrate into society are typical for such enterprises. They contribute to local and regional development. Such enterprises respond to the new emerging needs of society by creating and providing the necessary types of products, and public and social services (Dohnalová, 2011).

Type	Characteristics
Natural entity / individual – Trade licence	Trade licence is regulated by the Act on Trade licencing no. 455/1991 of the Legal Code. Trade is defined as "continuous activity carried out independently, in own name, on own responsibility for profit and under the conditions set by this Act" (Act no. 455/1991). General conditions for individuals to obtain such licence are: Reaching the age of 18, Legal capacity, Clean criminal record.
Limited liability company – s.r.o.	The registered capital of this legal entity is composed of contributions made by its shareholders. The minimum contribution for each shareholder to the registered capital is CZK 1. It may be established by a natural or a legal entity (only a single legal entity is permitted). The company's liability is limited to all its assets, while the limited partner's liability is limited to the amount of outstanding deposit. The supreme body of the company is the General Assembly composed of shareholders and the statutory body is represented by the Executive Director or by the sole shareholder exercising the powers of the General Assembly. The advantage is credibility of the legal form (Law no. 90/2012 of the Legal Code).
Joint-stock company – a.s.	A joint-stock company is established by articles of association by one or more shareholders (whether individuals or legal entities). The capital is divided into a number of shares of a nominal value. Without public offering, its amount is set to a minimum of 2 000 000 CZK, in case of public offering the minimum capital is 20 000 000 CZK. The liability is limited by company's property, individual shareholders are not liable for company debts. The statutory body of the company is represented by the Board of Directors, the highest authority is the General Assembly. Furthermore, the Supervisory Board oversees the performance of the Board of Directors and the company's activities. The advantages are credible legal form and larger capital (Law no. 90/2012 of the Legal Code).
General partnership – v.o.s.	General partnership is an association of persons or an unincorporated company formed by two or more persons created by agreement, proof of existence and estoppel. The owners are personally liable for any legal actions and debts of the company, which is its main disadvantage. All partners share equally both responsibility and liability of the company. If



	a partnership defaults, the partners' personal assets are subject to attachment and liquidation. A partnership may be represented exclusively by an appointed natural person.
Cooperative	A cooperative is a community-based entity for business purposes or for provision of economic, social, or other needs of its members. A cooperative must consist of at least 3 members, a maximum number of members is not determined. A cooperative is liable for its debts with all its assets, members are not liable for the cooperative. The essence of the cooperative is that its members do not deposit money, but mostly other material asset. The law does not determine a minimum amount of capital, but the share must be equal for all members. The supreme body of the cooperative is the Members' Assembly, the Board of Directors is a statutory body, the basic document is called Articles of incorporation, and the supervisory body is represented by the Control Committee. The law also regulates the Housing Cooperative and Social Cooperative (Law no. 90/2012 of the Legal Code).
Social cooperative	Social cooperative is a new legal form introduced in 2014 which supports social entrepreneurship. Generally it represents a cooperative focusing on social entrepreneurship. Voluntary associations which are now transforming have the option to transform either into a new form of voluntary association or become a social cooperative. Business Corporations Act defines a social cooperative as follows: Social cooperative is a cooperative that consistently develops for-impact activities aimed at promoting social cohesion for vocational and social integration of disadvantaged people in the society with the preferential of satisfying local needs and exploiting local resources in place of residence and scope of the social cooperative, especially in the area of job creation, social services, health care, education, housing and sustainable development. (Act no. 90/2012 Coll.) Social cooperatives are not NGOs although their activities bring public benefit. Profit from operation of a social cooperative may be redistributed among its members. Social cooperative may, if permitted by the articles of incorporation, distribute a maximum of 33% of its disposable income among members. Conditions of membership in a social cooperative are stricter than in voluntary association. Only a legal or natural entity who carries out social work in the cooperative based on employment contract or voluntary basis, or a natural person who is the recipient of the services provided by the social cooperative may become its member. (Act no. 90/2012 Coll.)
Charitable organization – o.p.s.	This type of organization is no longer considered a separate legal form since 1st January 2014. The existing organizations may remain o.p.s., or convert into voluntary association, foundation, or endowment fund. O.p.s. providing public services of general interest and its economic profit must not be used for the benefit of the founder, but to provide public services.
Voluntary association – o. s.	Under the new Civil Code, a voluntary association is to be called association. The main aim of this legal entity remains unchanged. Associations are founded to fulfil certain goals which are primarily non-for-profit. Within the period stipulated by law they must adapt and their legal names (up to 2 years) and articles of incorporation (within 3 years). Since 1st January 2014, the new Civil Code (Act no. 89/2012 Coll.) comes into force and allows the following newly formed legal forms: Association, Cooperative, Foundation, and Endowment fund.
Ecclesiastical organization	Ecclesiastical organization under the Act on Churches and Religious Societies remains in force. Under this Act, new legal persons may be established. Legal entity registered under this Act may be a body of a registered church or a religious society, or a special-purpose entity established to provide charitable services. Business and other for-profit activities may only be a complementary activity. Register of churches and religious societies is managed by the Ministry of Culture.

Table 2. Comparison of legal forms of social enterprise

## RESEARCH DESIGN AND FINDINGS

In the Czech Republic, there is neither an official database of social enterprises, nor the exact number of social enterprises is known. Due to lack of legislation defining and determining the criteria for social entrepreneurship, we can only speculate what can be derived from the recommended standards.

One of the most comprehensive resources in the Czech Republic is the Czech Social Entrepreneurship website, which contains 219 registered social enterprises in its database by 16th March 2016. The directory includes organizations that are committed to the idea of social entrepreneurship. The register was created based on telephone surveys in autumn of 2012. The source of contacts used for surveying the businesses was a list of social enterprises created by the organization TESSEA. Businesses may also add their own data into the database. They shall simply fill in a questionnaire on the website of the Czech Social Entrepreneurship which is then assessed so the given company is either added to the register of social enterprises, or the request is refused.

The following information on social enterprises was analyzed: year of establishment, legal form, area of business, city, county, social entrepreneurship, website of the social enterprise. The "social enterprise" section provides information on why the business is considered social in its sole discretion. Detailed examination of this data also provides other features of Czech social enterprises.

It should be noted that although such register of social enterprises is a unique source of information about social entrepreneurship in the Czech Republic, some social enterprises are not included in the list even though companies are regarded as social. It is speculative whether it is due to the fact that the company has not been approved, or that the list is incomplete. For instance, a voluntary association Nový prostor which provides employment for homeless individuals by selling the magazine called Nový Prostor is not included in the register. Nevertheless, the company was included in the book "Social Business 10 successful examples in Europe." (Meszáros, 2008).

## **DISTRIBUTION OF SOCIAL ENTERPRISES (SE) BY LEGAL FORM OF BUSINESS**

In the Czech Republic, the most common forms of social enterprise are a limited liability company (s.r.o.) represented by 44.7% of cases, a charitable organization (o.p.s.) by 25.6% of the business units, followed by voluntary associations (o.s.), and entrepreneurs doing business under the Trade Licensing Act. Cooperatives, which are a typical legal form of social entrepreneurship, occurred only in 7.3% of cases. The reasons why the most preferred form of social enterprise a limited liability company are facile founding, where only a single executive director is needed, and low requirement for capital. In contrast, cooperatives, according to the law no. 90/2012 of the Legal Code, must be founded by at least three members, also legal regulation of their activity is different (e.g. arrangements for decision making or rights and obligations of members).

Legal form type of social enterprise	%
Limited liability company (s.r.o.)	44.7
Charitable organization (o.p.s.)	25.6
Voluntary association (o.s.)	9.6
Trade licence (osvč)	7.3
Cooperative	6.4
Ecclesiastical organization	3.2
Joint-stock company (a.s.)	0.9
General partnership (v.o.s.)	0.5
Other	1.8

Table 3. SE distribution by legal form of business ( $n = 219$ ). Source: authors' construction based on analysis

## YEAR OF ESTABLISHMENT OF SE

Social enterprises began their establishment in the 90s of the last century in the Czech Republic. The largest increase in the number of social enterprises was between the years 2009-2014 when every year at least 10 such companies were founded. The record number of 47 new social enterprises was achieved in 2012, also years 2011 and 2013 were considerably strong when 38 and 32 new social enterprises were established respectively.

Programs for social entrepreneurship support played a major role in this process. The concept of social economy and social enterprise became popular in the Czech Republic in connection with the possibility to draw resources from the European Structural Funds to support development (Hunčová, 2009). In 2007-2013, it concerned the operational funding program Human Resources and Employment. In the previous period, support of the development of social economy was hidden under the concept of local development, partnership between the public and private sectors under EQUER and LEADER+ programs (Hunčová, 2007). Today, operational programme 2014-2020 is being prepared, therefore stagnation or growth of emergence of social enterprises may be expected.

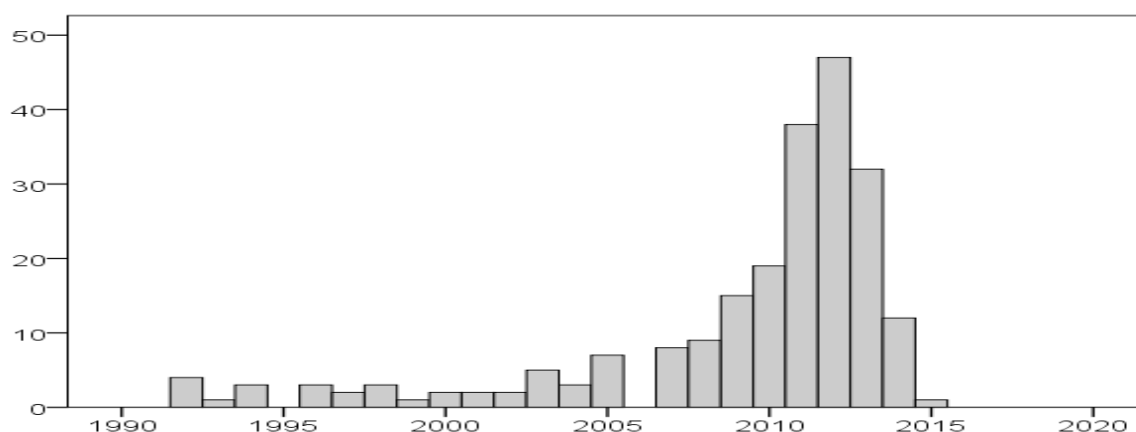


Figure 1. SE distribution by year of establishment

## SE DISTRIBUTION AMONG REGIONS IN THE CZECH REPUBLIC

While analyzing the distribution of social enterprises among regions in the Czech Republic it is possible to identify three largest clusters in which the concentration of social enterprises is by far the highest. The first cluster comprises 66 enterprises in the city of Prague and Central Bohemia, which represents 30% of the total number of SEs in the Czech Republic. The reason is that in this region, concentration of economic activities in the Czech Republic the most significant in general, and most companies are registered in this area. The second most numerous cluster of social enterprises in the South Moravian region which houses 25 social enterprises (11.4% of the total number). The third and fourth most numerous clusters of social enterprises are in the Olomouc and Moravian-Silesian regions where each counts over 20 social enterprises (9.1%). In contrast, the least social enterprises are located in the region of Karlovy Vary (3 companies) and Liberec (4 companies), then in the Pardubice region (7 companies), in the Vysočina region (8 companies), and the Pilsen region (9 social enterprises). The fact that Karlovy Vary region is the least active in social entrepreneurship is not very surprising since it is a region with generally the lowest economic performance in the Czech Republic, on the other hand, the development of social entrepreneurship would certainly benefit this region considering its structural unemployment rate as well as the highest number workers with just primary education who would be able to find adequate employment in social enterprises.

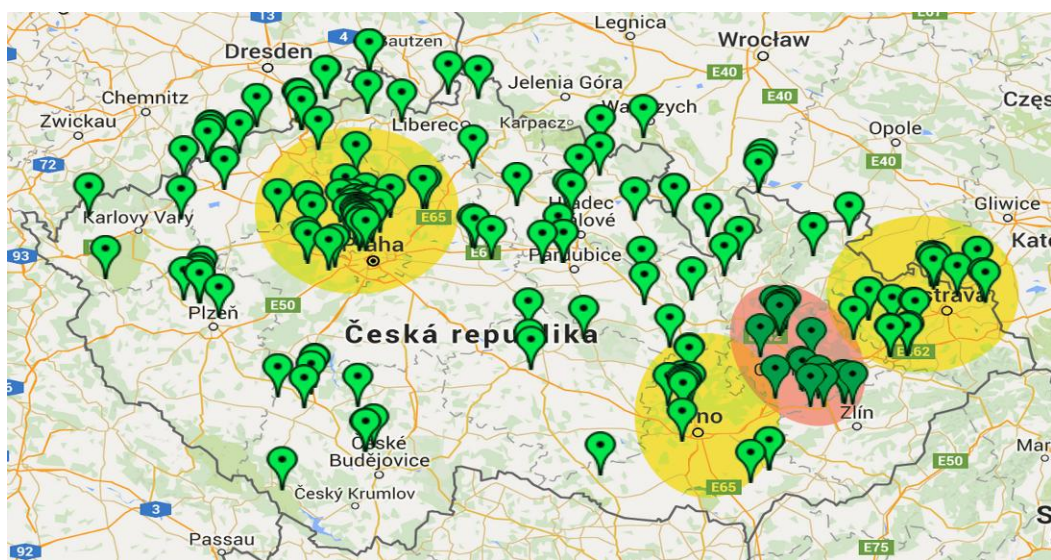


Figure 2. SE distribution among regions in the Czech Republic. Source: <http://www.ceske-socialni-podnikani.cz/cz/adresar-socialnich-podniku/mapa-podniku>

## AREA OF BUSINESS OF SES

Business areas of social firms are divided according to NACE classification into 15 groups. Areas that often occurred form their own group (i.e. gardening, cleaning). Those that did not occur often are

categorized as others. Forestry, cardboard manufacturing and glass manufacturing may be found among others. Some social enterprises operate in multiple areas of business, those were classified according to the activity which was prevalent.

Most enterprises are engaged in gardening services, landscaping, property maintenance, and cleaning work (26% of companies), followed by food production and sales (18.7%), sales in general (18.2%), accommodation and food service activities (17.8%), training and requalification (16.9%), decorative manufacture, production of glass and ceramics (9.1%). It is obvious that social enterprises operate in various sectors mostly providing services and involving in small-scale manufacture. Conversely, industrial production does not belong among the main fields of business in social enterprises. Dividing area of activity by sector (primary, secondary, and tertiary), 20.2% of social enterprises are involved in activities which fall within the secondary sector, and 79.8% of enterprises are engaged in activities falling within the tertiary sector.

Group	Area of business	
A	AGRICULTURE, FORESTRY AND FISHING	57
C	MANUFACTURING	94
D	ELECTRICITY, GAS, STEAM AND AIR CONDITIONING SUPPLY	3
F	CONSTRUCTION	19
G	WHOLESALE AND RETAIL TRADE; REPAIR OF MOTOR VEHICLES AND MOTORCYCLES	40
H	TRANSPORTATION AND STORAGE	6
I	ACCOMMODATION AND FOOD SERVICE ACTIVITIES	39
J	INFORMATION AND COMMUNICATION	22
K	FINANCIAL AND INSURANCE ACTIVITIES	4
M	PROFESSIONAL, SCIENTIFIC AND TECHNICAL ACTIVITIES	15
N	ADMINISTRATIVE AND SUPPORT SERVICE ACTIVITIES	29
P	EDUCATION	37
Q	HUMAN HEALTH AND SOCIAL WORK ACTIVITIES	32
R	ARTS, ENTERTAINMENT AND RECREATION	22
S	OTHER SERVICE ACTIVITIES	59
	TOTAL	501

*Figure 3. SEs by fields of activity according to NACE (n = 501). Source: authors' construction*

## PROVIDING FACULTATIVE COMPENSATION

In the sense of regulation §81 and following Act No. 435/2004 of the Legal Code on employment, the term „facultative compensation“ means that an employer with more than 25 employees in permanent employment must employ 4% of persons with disabilities. For failing to fulfill this obligation, a contribution to the state budget must be paid (in 2014 the amount of 62,090 CZK, in 2015 the amount grew to 62,946 CZK per employee with disabilities). An alternative solution to deal effectively with this

issue is purchasing products or services from a company that employs more than 50% of employees with disabilities (value corresponding the amount of 176,253 CZK in 2015 per a disabled employee).

The current analysis shows that only 19.6% of the monitored 219 social enterprises provide facultative compensation while the remaining more than 80% do not.

## ASHOKA

Another significant and also the most recent mapping initiative of the activities of socially beneficial projects in the Czech Republic is a map of social entrepreneurs created by the international organization Ashoka in cooperation with an Austrian analytical agency FASresearch, and Karel Janecek Foundation (see Fig. 3). Ashoka systematically performs network analysis of social entrepreneurs worldwide. Besides the mapping itself, this project aims to link and make more visible those entrepreneurs who provide unique and innovative solutions to social issues (Ashoka, 2015).

In the Czech Republic, the mapping was carried out from October 2014 to February 2015 using the so-called snowball sampling technique. This method works on the principle of addressing the key players in the field and finding out whom they perceive as other significant innovators, experts, or supporters of social entrepreneurship. The result of this project is a map containing 1,840 drivers of social change. The map was compiled based on a limited number of interviews with social innovators. While choosing the respondents, the balance of interest fields and roles was taken into account. It should however be noted that such map is neither a complete list of social entrepreneurs, nor a scale to measure their success. The map does not include all names of all the respondents, partly due to space restrictions, and partly because not all the respondents wished to be listed on the map, or responded negatively to permission to be listed. Ashoka states that it is aware of the limitations, but still sees the underlying mapping as an important first step towards systematic observation of the social innovation field in the Czech Republic, and will seek to enhance the quality of mapping in the future. The organization also makes this map accessible to general public as a potentially useful guide to finding partners across the thematic areas and roles (Ashoka, 2015).

Fields of activity	Roles
Strengthening civil society and transparency, local development	Established innovator
Education and support of interest in science and research	Newbie innovator
Healthy lifestyle, healthy nutrition, and access to health care	Expert
Socio-economic inclusion and integration	Supporter

Table 4. *Entrepreneurs and innovators on the map are divided into groups by fields of activity and roles. Source: Ashoka (2015)*

Ashoka primarily addressed 500 selected respondents and received responses from 310 of them. Subsequently, a network of 1,840 nominees for social entrepreneurs, innovators, and supporters

emerged from the interviews. In some cases, the persons interviewed met nominations in all the named categories. These individuals act as unique connectors within the network. Comparison with Austria (287 interviews and 1,213 people) or Italy (443 interviews and 1,061 people) suggests that Czech civil society is characterized by a relatively high degree of openness and interconnection between innovators, experts, and supporters (12.2 nominations per person versus 4.2 nominations in Austria). Likewise, representation of both genders in the Czech Republic is relatively balanced (43% women, cf. Italy 20-40% depending on the region). Ashoka claims that despite targeted efforts to direct nominations into regions and from regions outside Prague, the map shows its strong central position as for interconnection, number of participants, and sources of support. Therefore, in the future, the organization wants to focus more on the network in other regions of the Czech Republic (Ashoka, 2015).

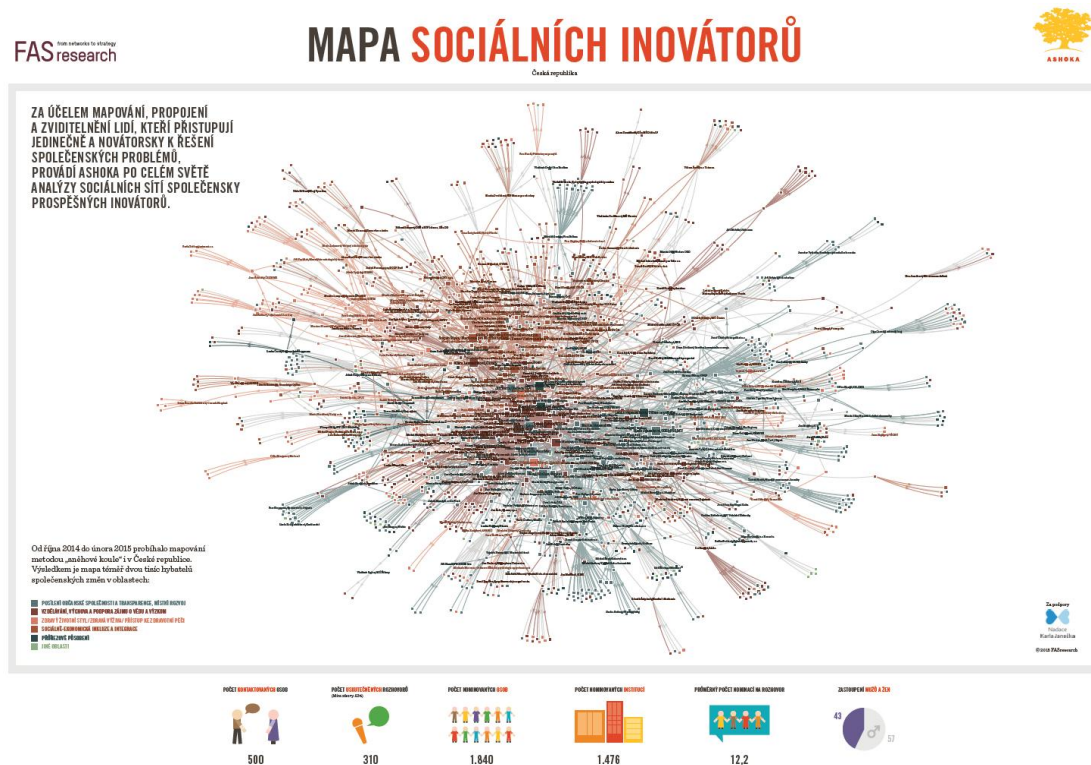


Figure 4. Map of social entrepreneurs in the Czech Republic. Source: Ashoka (2015). The full map is available in high resolution on: <http://www.ashoka-cee.org/czech/wp-content/uploads/sites/5/2015/04/Changemaker-map-Czech-Republic.pdf>

## SUMMARY

Social entrepreneurship appropriately combines economic and social objectives of society. Legal environment that poorly supports social entrepreneurs and innovators in general prevents greater

development of social entrepreneurship in the Czech Republic. In the Czech practice, an enterprise itself decides on whether to define itself as social or not, or it does not consider such view at all. Perception of social entrepreneurship in the Czech Republic is often narrowed down to issues of employment of handicapped or otherwise disadvantaged people. Social entrepreneurship put focus on community and local development, it contributes to solving collective or social issues, not only issues of individual subjects.

The main contribution of this article is description of the structure and the current state of social economy in the Czech Republic. The originality of the paper based on uniqueness of gaining and analyzing data about social entrepreneurship and its key actors in the Czech Republic. Based on the analysis conducted, it is possible to say that most of the 219 observed social enterprises that operate in the Czech Republic, most is registered in the capital city of Prague, South Moravia, Olomouc, and Moravia-Silesian region. Distribution of social enterprises in the Czech Republic is uneven and for instance in the Karlovy Vary region, social enterprises represented very poorly. Legal form of the majority of social enterprises is either a limited liability company, a charitable organization, or a voluntary association. Most social enterprises were founded between the years 2007 and 2013, focusing on business areas like gardening and cleaning services, food production, sales, and provision of accommodation and food services. Four-fifths of social enterprises included in the assessed database do not provide facultative compensation. According to the research made by the international NGO Ashoka in 2015, there are more than 1 800 active social innovators, i.e. individuals and entrepreneurs involved in social economy in the Czech Republic.

## ACKNOWLEDGMENT

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## MANAGERIAL INSIGHTS FROM SERVITIZATION LITERATURE: PRELIMINARY DESCRIPTIVE RESULTS FROM A CONTENT ANALYSIS

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### ABSTRACT

Servitization, meant as the addition of services to the product, is one of the most relevant phenomenon of the modern economy. Although the concept was described many years ago, only in the last decade, many authors, coming from different research streams, have been dealing with servitization. While literature is rich, it results quite fragmented, lacking in classifications of the mainstreams and of the practices and techniques useful to carry out servitization.

Thus, the aim of this paper is to map and analyze the existing managerial literature on the servitization in order to identify its general characteristics and describe the managerial implications that it is possible to draw upon.

The analysis of the literature was carried out through the content analysis technique.

**Keywords:** *Servitization, Content Analysis, Services, Product-Service Systems, Service Strategies, Service Marketing.*

### INTRODUCTION

One of the most important phenomenon of modern economy is *servitization*, conceived as the evolution of the offering from a simply material product to a product-service system (PSS) which in turn is made of a variable mix of tangible (the product) and intangible components (service) (Vandermerwe and Rada, 1988; Goedkoop et al., 1999; Baines et al., 2007). One of the main motivations pushing managers to servitize firms' business seems to be the willingness to match customers' needs (Baines et al., 2010) delivering a high customized offering that is tailored on their needs and capable to create a strong consumer relationship (Tukker, 2004). The servitization fosters the rise of a new service-dominant logic, where marketing becomes a process of doing things in

interaction with the customer who is a co-creator and a co-producer of services (Vargo and Lush, 2004).

The issue of the add of services to the product has been faced by many scholars coming from diverse research streams with different research perspectives and cognitive goals (even being characterized by multiple definitions of the phenomenon).

It emerges that the boundaries and the composition of literature is controversial. Indeed the existing literature reviews, that are very few (Pawar et al., 2009; Baines et al. 2013; Reim et al., 2014), do not propose a unique way of systematizing servitization literature. Each review identifies an own set of research streams omitting of analyzing and comparing the mainstreams among them.

Another feature of literature is the lack of a clear classification of the practices and techniques that firms could employ to servitize themselves (Reim et al., 2014).

Thus, the work aims to reach two goals.

Firstly, it analyzes the main features of literature identifying the mainstreams and classifying the managerial insights proposed by scholars in their works and secondly it studies the traits of each research stream.

## LITERATURE REVIEW

The concept of servitization is not recent, as Vandermerwe and Rada conceptualized it for the first time in 1988, but only in the last decade it has been extensively investigated. Through the servitization firms add value to their corporate offerings through services; thus, firms' offering is represented by a bundle of goods, services, support, self-service and knowledge (Vandermerwe and Rada, 1988). This bundle has been named by Goedkoop et al. (1999) as Product-Service System (PSS).

Generally speaking, the term *servitization* is used by scholars to call the shift from selling the pure product to selling a bundle of product and services, by which firms deliver value in use (Baines et al., 2009), increase the differentiation (Neely, 2008), meet the complex needs of the customers and changes in their behavior finding out new opportunities for profit (Baines et al., 2013) and obtaining a competitive advantage (Oliva and Kallenberg, 2003).

The literature on servitization appears quite fragmented as contributions come from different research fields, each adopting a different perspective, with different research objectives and often using a variety of names while referring to the same phenomenon.

An initial analysis of literature has brought to the identification of four different mainstreams. Papers belonging to each of them have a common group of main authors, specific goals and refer to servitization with precise names, different from other mainstreams.

The first group of studies is here named as *PSS-Servitization* mainstream (Vandermerwe and Rada, 1988; Goedkoop et al., 1999; Mont, 2002; Baines et al., 2007; Neely, 2008; Baines et al., 2013). All these studies agree on the seminal definition of servitization given by Vandermerwe and Rada (1988) and Goedkoop et al. (1999). From this mainstream emerges that servitization is a strategy that entails a transition along a continuum which goes from the offering of pure products to that of pure services (Tukker, 2004). The mainstream has two main characteristics. First many authors are not interested in the managerial or economic aspects of the phenomenon, aiming at studying its ability to improve the environmental sustainability. Second, many scholars who deal with the phenomenon come from the operations studies, which gives the mainstream a strongly pragmatic trait.

The second mainstream, here called *Service Strategy*, consists of works that consider the phenomenon mainly as a strategy option, which is a recurring word, by which it is possible to extend the existent firm business providing services too (Gebauer et al., 2005; Gebauer et al., 2011; Kowalkowski et al., 2013). This mainstream does not even use an ad hoc term to identify the phenomenon. It aims at identifying the types of strategy that firms can adopt to differentiate themselves and to beat the competitors. The reasons for servitization are purely financial. No environmental goals are considered.

In the *Integrated Solutions* mainstream (Brady et al., 2005) scholars mainly look at capital goods firms and aim at creating solutions which are tailored on customer needs (Davies, 2004; Brady et al., 2005; Windahl and Lakemond, 2006). The bundle is sometimes called Complex Product System (CoPS) (Davies, 2004). Authors consider the phenomenon strictly linked to the existence of a network of agents, where the customer acts as a key actor and fundamental value co-creator. Often works are interested at identifying the competences that the focal firm, also named system integrator, needs in order to manage the network.

Finally, the *SD-Logic* mainstream found in marketing field (Pawar et al., 2009). It is based on the work of Vargo and Lusch (2004), who propose a new logic of economic transactions not more based on goods but on services, entailing that the consumer exchanges to acquire services and he acts as co-producer for the firm (Vargo and Lusch, 2006; Lusch et al., 2007).

Concluding, literature about the phenomenon of servitization is composite and heterogeneous as it consists of different contributions coming from diverse fields: authors with different backgrounds (management, production, informatics, environmental sustainability), research perspectives and cognitive goals.

## METHODOLOGY

### *Research technique*

The analysis of literature is performed by using the “content analysis” technique which allows to reduce a complex phenomenon in a set of defined categories, facilitating its analysis and interpretation (Berelson, 1952; Krippendorff, 1980; Losito, 1996; Harwood and Garry, 2003).

The content analysis was chosen for two reasons.

Firstly, the units of analysis consist of textual data (articles published in academic journals). Secondly, this technique is considered the best methodological choice to categorize and code the textual data (Stemler, 2001).

The first step of the content analysis was the creation of a conceptual map identifying the main dimensions of the existing literature on servitization, which has therefore sustained the creation of the analysis form (having the same structure of a questionnaire) to be used for paper analysis.

The main dimensions are three:

- a) *Paper ‘demographics’* – year of publication, research methodology (empirical or theoretical), research approach (qualitative or quantitative), geographical area of authors’ affiliation;
- b) *Main features of the phenomenon* – literature mainstreams papers belong to (PSS-Servitization, Service Strategy, Integrated Solutions and SD-Logic) and triggers driving the servitization (financial, political and ethical reasons);
- c) *Managerial insights* – managerial aspects investigated by the scholars (general organization which refers to firms’ intra-organizational factors such as capabilities, culture, strategies; management of the supply chain; firm-customer relationship; process design; financial impact of servitization; management of human resources) and papers’ managerial implications (frameworks, i.e., theoretical systematizations of the phenomenon; tools to sustain the implementation of servitization inside the firm; guidance, advice on how to support the implementation of the servitization).

### *Sampling procedure*

Two types of coding units were adopted for this work: sampling units and content units.

The sampling units are the keywords used to search for the papers.

The keywords represent a huge definition of servitization, created following the insights by Pawar et al. (2009) and Reim et al. (2014). An initial list of published research papers was identified using the following keywords: servitization, servitisation, product-service systems (PSS), service strategies, after sale services, SD logic, integrated solutions, product-service bundle, service infusion.

The content units are the title and the abstract of the papers where the keywords were found.

The search was conducted on the most relevant databases for the subject: Ebsco, Emerald, JStore, Science Direct and Discovery.

From a list of over 150 articles, only the papers approaching the study of the servitization from a managerial point of view - and assuming the perspective of the firm - were selected. Works limited to the review of existing literature were ruled out too. Other papers were added by using the citation analysis that consists of the references analysis for each article in order to find out papers overlooked during the initial search.

The search led to a final number of 89 papers to be analyzed.

Starting from the previous conceptual map, a coding form of 19 items (similar to closed questions) was developed in order to collect the data from the 89 articles.

## DESCRIPTIVE RESULTS

Data were processed through univariate and bivariate analyses.

The univariate was performed in order to extract the main features of literature, in particular the types of the managerial insights proposed by scholars and the percentage of each mainstream in the composition of the sample.

Regarding the bivariate analysis, it was carried out to study in depth the mainstreams identifying their main features.

### *Univariate analysis*

The univariate analysis related to the variable *year* shows that the majority of the works were carried out during the years 2012 and 2013, accounting for the 33% of the works. The peak of publications is recorded in the year 2013.

More than 50% of papers were published after 2010, explained by the growing interest of institutions and the world of economy toward servitization as a solution to the environmental sustainability problem.

Going to the methodology and the approach adopted by the authors, it emerges that 87.6% of the papers are empirical and 74.2% use a qualitative approach.

Thus, data show that few works are theoretical or use the quantitative approach.

Going to the analysis of the geographical area of authors' affiliation, it appears that the issue of servitization is of interest where the role of service in the economy is very relevant and where the sustainability is a critical theme. In fact the phenomenon is investigated by authors affiliated to research schools of Northern Europe like UK and Sweden, although there is a group of works which

comes from other countries like Italy and Switzerland. Surprisingly very few works come from the USA.

Regarding the triggers, almost all the papers consider the financial goal as the main trigger of the servitization. Few scholars consider political (6.7%) and ethical reasons (18.7%) as drivers.

The content analysis corroborates the existence of four mainstreams dealing with the issue of servitization (see section 2), clustering on phenomenon denomination and definition and main references.

The mainstream which has produced more works is the PSS-servitization which accounts for the 61.8% of the sample (table 1).

**Table 1. Mainstreams**

Mainstream	N.	Percentage
PSS-Servitization	55	61.8
Service Strategy	17	19.1
Integrated Solutions	10	11.2
Others	4	4.5
SD-Logic	3	3.4
Total	89	100

Going to the managerial aspects, the main fields studied by the authors are those regarding firm general organization (firms' intra-organizational factors such as capabilities, culture, strategies) and the management of the supply chain (table 2).

**Table 2. Managerial Aspects**

Managerial Aspects	N.	Percentage
General Organization	55	51,9
Supply Chain	20	18,9
Customer	11	10,4
Design	10	9,4

Financial Impact	6	5,7
Human Resources	4	3,8
Total	106	100

Customer relationship is the third most studied field but the number of the papers is quite low. Scholars are more interested in the management of the supply chain than in the relationship between firm and the customer, despite the fact that this aspect is considered by relevant works as a key element for the full implementation of the servitization.

Not many papers are about the process design aspects related to servitization, the financial consequences of the phenomenon for servitized firms and the management of human resources.

The poor attention given to the financial effects of servitization is surprising because, as previously shown, generally speaking the financial motivation is considered to be the most important trigger of servitization. Moreover, scholars focusing on the financial impact of servitization on firm performance do not agree whether it is positive or not.

Going to the managerial implications, the univariate analysis shows that the most recurring managerial implication is represented by guidance, i.e. advice on how to support the implementation of the servitization, followed by frameworks and tools (table 3).

**Table 3. Managerial implications**

Managerial Implication	N.	Percentage
Guidance	57	54,8
Frameworks	36	36,6
Tools	11	10,6
Total	104	100

The guidance is often represented by tips that can help firms to manage servitization from a network point of view. Works suggest to closer integrate the value chain; to align the incentives to involve the employees, sharing information inside the firm in an intra-organizational perspective; to involve the customer, considered a co-producer of the bundle.

The second common type of managerial implication is represented by frameworks, i.e., theoretical systematizations of the phenomenon.



The presence of many frameworks could mean that the topic of servitization is still an open issue and that scholars need to classify and categorize its different aspects.

Usually the frameworks aim at classifying the types of strategies that firms can adopt to servitize. Another group of frameworks is about the capabilities needed by the firm which wants to servitize. Useful insights for the management also stem from those frameworks that allow identifying the main factors and stakeholders involved in the servitization process.

As shown in table 3, literature is not rich of tools to carry out servitization. Tools are mainly about the design process needed to create the PSS. Only one is devoted to anticipate customer decisions.

#### **4.2. Bivariate analysis: Literature mainstreams' managerial insights**

The bivariate analysis allows drawing the managerial insights of each of the previously identified mainstreams.

Analysing the managerial fields of interest for each mainstream it emerges that they mainly deal with the aspects of general organization, management of the supply chain and customer relationship (table 4).

**Table 4. Managerial aspects from the Mainstreams**

Managerial Aspects	PSS-Servitization	Integrated Solutions	Service Strategy	SD-Logic	Others	Total
General Organization	29	8	11	3	3	55
Supply Chain	13	3	3	0	1	20
Customer	4	1	2	3	1	11
Design	10	0	0	0	0	10
Financial Impact	4	0	2	0	0	6
Human resources	3	0	1	0	0	4
Total	106					

All the four identified mainstreams consider the impact of the servitization on firm's organization (capabilities, culture and strategies). The implementation of servitization inside the firm and its management is considered as a main focus by the authors.

The supply chain is studied by all the mainstreams except for the SD-Logic, which focuses mainly on the customer relationship.

The other aspects are more related to specific mainstreams.

Whilst the financial impact of servitization and the management of human resources are studied by the PSS-Servitization and Service Strategy mainstreams, the issue of process design is specific of PSS-Servitization.

To complete the study of each mainstream, it is useful to highlight the managerial implications drawn by each of them (table 5).

**Table 5. Managerial implications from the Mainstreams**

Managerial Implications	PSS-Servitization	Integrated Solutions	Service Strategy	SD-Logic	Others	Total
Guidance	34	7	11	1	4	57
Frameworks	18	5	10	2	1	36
Tools	11	0	0	0	0	11

Each mainstream proposes guidance which, except for the SD-Logic, is the most common managerial implication.

As for the guidance, all the mainstreams propose frameworks while tools for the implementation of servitization are given only by the PSS-Servitization mainstream.

Now it is possible to give a portrayal of every mainstream from a managerial perspective.

The Integrated Solutions mainstream, which is strongly concerned with the existence of a complex network of actors essential to create the CoPS, focuses on the need to manage the network, mainly looking at the supply chain while devoting scarce attention to the relationship with the customer. In particular, most works are about firms' intra-organizational enhancing factors.

The mainstream ignores aspects such as the management of human resources and process design and it is not interested at all in the financial impact of servitization.

No tools are proposed for a phenomenon that requires, according to the scholars of this mainstream, above all network capabilities.

The PSS-Servitization mainstream is the most various. Papers study mainly how to carry out servitization inside the firm and how to manage the relationship with suppliers.

Many authors of this mainstream are interested in typical issues of operations such as the design process. Its main characteristic is being the only mainstream proposing tools for firms that intend to servitize.

The role of the customers is not much studied, as this field has the lowest percentage for this aspect compared to the others.

As the previous mainstream, the Service Strategy focuses above all on the internal organization and the management of the network, even though it also looks at the financial impact of servitization and at the management of the relationship with the customer.

This mainstream has the highest value for the identification of frameworks as managerial implication. This datum reflects the need of the mainstream authors, who consider servitization as a strategy option, to systematize the different strategies that can be implemented by the firms to servitize.

The last mainstream, the SD-Logic, is mainly interested in the intra-organizational aspects of servitization and in the management of firm-customer relationship. It tends to be a theoretical mainstream. All the papers are theoretical and aim to present the framework initially portrayed by Vargo and Lusch. The theoretical tendency is confirmed by the absence of any tool proposed to implement servitization. Nevertheless guidance is given, typically regarding the management of the relationship with the customer, the most relevant actor of the network.

## CONCLUSIONS AND IMPLICATIONS

The aim of this paper was to map and analyze the existing managerial literature on servitization. The work highlights that servitization is a relevant phenomenon characterized by a rich and recent literature and considerable managerial implications.

From the univariate analysis, some general features of literature can be drawn.

First, despite servitization is not a recent topic, it has been studied all over the last decade arousing the interest of scholars and governments.

While seminal works often focus on the environmental sustainability stemming from servitization, most articles recognize only the financial drivers circumscribing the phenomenon.

Sampled papers are usually empirical and they adopt a qualitative approach, generally case studies. Few works are theoretical or quantitative.

Regarding the managerial aspects investigated by authors, articles tend to focus on the internal implementation of servitization, mainly looking at the strategic intra-organizational factors and, in a lesser extent, at the management of the supply chain.

Despite the central role of the customer in the new business model accompanying servitization processes, few articles composing our sample are about it and, as a consequence, few managerial implications regarding the management of the customer relationship can be extracted from literature.

This datum is not consistent with the theoretical elaborations of the seminal works, where customer centrality is considered one of the main aspects brought by servitization.

Furthermore, data show that most of the works focusing on the customer relationship, though providing a theoretical contribution to the knowledge, generate few practical implications for

marketing practitioners. These results represent a call for further empirical research works which could test and measure the impact of the servitization on the company market shares or on the consumer needs; empirical research is also needed to understand how the offering of a bundle of service/product can affect the traditional marketing tools (i.e. distribution or promotion). Moreover, work needs to be done in order to measure how and how much the servitization affects the final value generated for both the consumer and the firm.

Same considerations for the study of the financial results of firms implementing servitization, which is still a controversial issue. More works and evidence are required to investigate this aspect.

Regarding the managerial implications, they are mainly strategic. In fact, authors are more concentrated in giving strategic indications than in identifying tools useful to face the practical problems generating from the implementation of servitization. Thus practical insights to implement servitization are still very few.

Many frameworks are proposed by authors.

This datum could be explained by the fact that many aspects of servitization still require to be clarified and systematized.

Going to the bivariate analysis, it allows to synthesize the features of each mainstream.

The PSS-Servitization mainstream is the most various mainstream, focusing on all the types of managerial aspects.

In particular, it mainly studies the issue of the internal implementation of servitization and the management of the supply chain.

The number of guidance is almost double compared to framework and it is the only mainstream proposing tools, showing also a pragmatic trait absent in the other mainstreams.

The Integrated Solutions mainstream is focused on the intra-organizational and strategic factors that allow the implementation of servitization as well as on the management of the supply chain.

However it is not interested in practical aspects of the implementation of servitization. This is confirmed by the absence of identified tools.

Frameworks and guidance are elaborated in order to classify and identify the competences that firms need to manage the supply chain.

The Service Strategy mainstream, as the previous one, studies above all the internal aspects related to the implementation of servitization, focusing also (in low percentage) on others, such as the management of the supply chain, the relationship with the customer and the financial consequences of servitization.

The management of the supply chain is not studied so much as in the previous mainstreams. In this mainstream, the role of the supply chain is recognized but it is not stressed as done by the other

research streams.

This is the only mainstream where frameworks have almost the same frequency as guidance.

Generally, frameworks are used by authors of this mainstream to identify and classify all the possible strategies to servitize.

The last mainstream, the SD-Logic, is purely theoretical and customer oriented.

The mainstream focuses on the customer while it does not give the same importance to the other actors of the network such as the suppliers.

The mainstream is not interested in practical aspects, such as the design process of PSSs or the management of human resources.

## **LIMITATIONS**

The work has some limits that cannot be denied.

The sample is limited to the academic journals. Thus, important works, such as books, reports and proceedings are not considered.

Second, the selection of the papers were made using specific keywords: servitization, servitisation, product-service systems (PSSs), service strategies, after sale services, SD logic, integrated solutions, product-service bundle, service infusion.

Furthermore, the sample consists of articles about servitization adopting a managerial point of view. This decision ruled out those works focused on the environmental sustainability and engineering aspects of servitization.

As a consequence, the sample does not represent the totality of the production about the phenomenon.

Finally, the descriptive analysis is influenced by the choice of the dimensions included the conceptual map. Different dimensions could bring to different conclusions.

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## CONSIDERATIONS REGARDING THE SUSTAINABLE DEVELOPMENT OF INTELLIGENT SYSTEMS THAT ARE INFLUENCING THE ACTUAL ECONOMIC ENVIRONMENT

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### ABSTRACT

This research paper addresses issues that are contributing to the development and better implementation of Intelligent Systems (IS). The actual economic environment is characterised by a high dynamic and complexity due to the rapid expansion of the Internet and the automatization of all logistical channels. This drove the development to high rhythms and helped the implementation of Intelligent Systems; this came along with a massive gap in the capability of exploiting the systems and using them to their real, maximum capacity. As a major consequence, legal issues related to policies and strategies in implementing IS came along

The rapid development of the industrial sector has led to an increase of pollution, especially in the urban areas (Rizzi & Zamboni, 1999). As we can all see, climate change is drastically affecting us due to the rising levels of the oceans, melting icebergs from the Earths poles and the increase of temperatures (Mulgan & all 2007).

**Keywords:** *intelligent systems, logistics, innovation, infrastructure, ecological economy, development, complex systems*

### 1. INTRODUCTION

The progresses made by the automotive industry, as well as in other economical and industrial areas in the course of rapid development, are very important, but now more than ever we must pay great attention to environmental protection. It is very important for all the governments around the world to start investing more and more in the scientific and research area aimed to reduce the emissions of pollutants into the atmosphere and to monitor their implementation and progress. Today, unfortunately, this type of research is not relevant for many of the leading governments in the world. Few people pay attention to the fact that humanity has become a hostage

of the automotive industry and of the ICT industry as well. The ecological situation in many countries has become a serious problem due to its impact on the wellbeing of its society and thus we need to take measures to reduce emissions from all the means of transport, especially from the industrial sector.

We consider that the importance of implementing new and “green” Intelligent Systems (IS) in all the industrial sectors, especially in the transportation and logistical sector, is represented by introducing Intelligent Transportation Systems (I.T.S.) (Mortensen & all, 2002). It should represent the most important detail that all the governments should develop in the near future, because only by protecting the environment and implementing and developing new and reliable IS, they can assure a prosperous setting for its inhabitants.

In terms of people, the gas emissions resulted from the auto/transportation sector, lead to many diseases. The emissions of pollutants resulting from the transport sector have a negative impact on soil, plants, water tanks etc.

As people have understood that they represent a part of nature, and the earth's resources are very limited, together with this planet as a whole, along with that the disorder produced, will be transmitted to the entire globe. The interest and concern for environmental protection surrounding human society at all levels has increased in the last decade.

## **2. THE NEED TO IMPLEMENT AND DEVELOP IS (INTELLIGENT SYSTEMS) IN URBAN AREAS**

Since the early decades of the twentieth century the shape of the metropolitan areas worldwide started to be increasingly larger thus the existing urban centres lose their position as the main actors in terms of economic and social development and the new suburban communities in the predominantly rural areas have relatively started to develop more and more in an uniform but deficient way because their ability to ensure the vital functions of a community (leisure, art, culture, ways of interacting between community members, easy access to shopping malls etc.). This phenomenon manifested itself more strongly in the USA but at the present time we can observe it today both in the developed countries and also in developing ones.

If we study carefully the experience from the other countries that have faced the issue of the development of metropolitan areas, we can see that there are adverse effects associated with this phenomenon especially when urban planning is flawed or missing entirely.

In our opinion and after the studies we conducted, the most economical way that this problem of the rapid development of the metropolitan areas around cities can be resolved is by implementing



Intelligent Systems (IS) for improving the traffic control (Intelligent Transport Systems – ITS), public illumination, waste collection, water management, reducing carbon emissions etc.

If we do not use a well develop plan in order to better implement the expansion of cities, in our opinion, we can face the following problems:

- the increase of air pollution and CO<sub>2</sub> emissions;
- reducing the possibilities of constructing big and well develop real-estate projects;
- loss of farmland;
- reducing the green spaces and parks;
- a bigger pressure on the local budgets because of the need to develop new infrastructure;
- aesthetic deficiencies.

In order not to encounter all the problems listed above we highly recommend the use of Intelligent Systems in urban planning and especially in the developing cities that are struggling with the lack of technology because if we started to implement more and more IS. The economic development and the wellbeing of the citizens will highly increase.

### **3. THE INFLUENCE OF INTELLIGENT SYSTEMS UPON THE ECONOMIC ENVIRONMENT**

The concept of Intelligent Systems (IS) is not a new one. The concept appeared together with the development of the internet infrastructures worldwide and it has known an unprecedented growth in the last decades. In order to develop new and sustainable IS it is necessary to take into consideration the concept of green infrastructure; a concept that has begun to be more and more popular among scientists, practitioners, economists and also the general urban planning experts.

The concept of green infrastructure is well connected with the field of Intelligent Transport Systems (I.T.S.) which is part of the IS architecture. As we all know, in order to have a performing, sustainable and green economic environment and development, it is necessary to protect the actual infrastructure (both economic infrastructure and urban/planning infrastructure) with all the risks and all the costs that involves using Intelligent Systems.

The key components of the concept of “green infrastructure” are represented by the focal points and routes or connections between them. This concept has three major concepts:

- the structure and interconnection between different points inside an urban area is not fragmenting the landscape;
- designing these new and intelligent networks as infrastructure systems turn them into a part of the urban areas;

- using “green” energy and resources provided by the actual site conserves the actual landscape and other resources.

As we can observe in figure number 1 the intelligent concept of “Green Infrastructure” can be influenced by a number of factors such as:

- market opportunities – the development of a metropolitan area of an urban area can be easily influenced by the opportunities that the real-estate sector has to offer;
- stakeholders desires – in order to develop and implement a new, clean, green and prosperous concept first of all we have to take into consideration the desires of the stakeholders which have a powerful impact upon the decision process that involves the development of a metropolitan area;
- organizational capacity and capabilities – regardless of the request of the citizens or the stakeholders a new concept such as the concept of “Green Infrastructure” which is part of an IS cannot be implemented if the organization that is implementing the concept does not have the necessary capabilities or capacities;
- strategies – if we want to implement new and more complex and intelligent systems we need to take into consideration of developing a strategy on a short, medium and especially long term in order to be sustainable and provide an economical comfort.



Fig. 1 The factors that are influencing the concept of “Green Infrastructure”

Source: Proposed model by the authors

The unplanned extension of cities to the periphery has become a process that increasingly concerns several categories of stakeholders: from environmental groups and citizens to local authorities, non-profit organizations and the business sector. This is why we recommend to the local authorities

worldwide, to use and implement Intelligent Systems (IS) in order to develop a sustainable economic environment.

#### 4. CONCLUSIONS AND RECOMMENDATIONS

The road, rail, aerial and waterways transport will get an unprecedented development in our opinion, both in construction motor vehicles and route management issues, whether they are institutional or privately owned. The development of I.T.S. (Intelligent Transportation Systems) will represent the major key in the expansion of the logistical networks and the enlargement of application of I.C.T. (Information and Communication Technology) in all places around the world.

Further research on the topic of sustainable development of IS that are influencing the actual economic environment will require, undoubtedly, a complex team of specialists and scientific researchers in the field of complex studies, economics, logistics, environmental issues, transport, electronics and computer science.

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## HOW CAN CUSTOMER EDUCATION IN THE COFFEE SECTOR INCREASE CUSTOMER SATISFACTION?

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### ABSTRACT

Customer education has been widely recognized to play a key role in client satisfaction, particularly in the context of industrial markets (Business-to-Business or B2B). However, little is known about the effect of customer education on customer satisfaction within the B2D (Business-to-Distributors) sector. To address this gap, the paper develops a comprehensive model of consumer education applied to the mass consumption of coffee and seeks to verify its suitability relative to this industry. After reviewing the international literature on customer education, an analysis of Honebein and Cammarano's (2011) model allows the development of an adapted framework and then to validate it through a case study of a major private coffee distributor - a pioneer Italian company in the industry. The findings illustrate that this adapted model fits well with the coffee industry and identifies six dimensions of customer education which would lead to increased customer satisfaction. Despite the fact that this is an explorative study and needs to be applied to a larger number of cases, and testing via subsequent regression analysis, some early managerial implications from the retailer perspective are provided. Finally, the conclusion offers avenues for future research.

**Keyword:** *Customer education; Consumer behavior; Customer satisfaction; Customer relationship management; Experience marketing; Coffee sector.*

### INTRODUCTION

It has been shown that it is six to seven times more expensive to gain a new customer than to retain an existing customer (*White House Office of Consumer Affairs*, cited in Forbes, [www.forbes.com](http://www.forbes.com), 2015). For example: 55% of consumers who intend to make a purchase back out because of poor customer service and 40% of customers begin purchasing from a competitor because of their reputation for great customer service (Zendesk, as cited, *ibid*). Admittedly based on limited data, one can see how customer satisfaction is the lifeblood of business. This research aims to verify how 'customer education' can improve customer satisfaction and if customers find value in the services that such

education offers in a sector more and more involved in these educational programs. Customer education (CE) can be defined as a company's role in providing consumers with the information, skills, and abilities needed to become a more informed buyer. While CE can take many different forms (Aubert and Gotteland, 2010; Monnot, 2010, cited in Volle, 2012, pp. 31-32), it is most effective when used to engage online shoppers and in-store customers. However, while intended messages remain the same, these two areas of customer education can vary significantly (Aubert and Gotteland, 2010) albeit with an objective to give consumers all relevant information regarding the product or service at hand. Many authors have claimed that trust and its implications is essential for developing and building efficient customer-relationships. In distinguishing themselves from competitors, businesses should - according to Bitner *et al.* (1994) - pay attention to service quality. For example, especially in mature product markets, service quality is a key asset for competitiveness and success (Bell and Eisingerich, 2007). According to Sharma and Patterson (1999), customer education can be considered as the extent to which service employees inform customers about service-related concepts and explain the pros and cons of service products they recommend to customers. Bell and Eisingerich (2007) showed that perceived technical and functional service quality can have a significant and positive effect on trust by testing several hypotheses in an empirical model. On the other hand, customer education can also significantly and positively affect customer trust. The positive and significant relationship between CE and functional service quality indicates that the impact of functional service quality on customer trust can be stronger when CE is high. Furthermore, a negative relationship between technical service quality and CE can be further weakened as customer expertise atrophies. Finally, Bell and Eisingerich (*ibid*) showed that the positive moderating impact of CE in the interaction between functional service quality and trust is reinforced as customer expertise increases. They concluded in line with previous research that CE has a significant, direct, and positive impact on customer trust. Not only in supporting customers in using critical information, CE is likely to create further credibility with customers about the sincerity of an organization's efforts. Especially when confronted with intangible products, it was shown that customers perceive an organization's effort to provide product information as an important and valuable service augmentation. Aubert *et al.* (2007) investigated the effects of customer education on the skills level, usage behavior and satisfaction of customers. In analyzing 321 consumers who owned a digital camera for a certain period of time and by using structural equation modeling to validate the model, they found that CE had a significant impact on consumers' skills improvement, which in turn, positively impacted satisfaction. They further showed that skill improvement had a significant positive effect on product usage intensity and the variety of functionalities that customers can use via a camera after having been 'taught'. On the other hand, they also showed there was no direct interaction between product usage intensity and

satisfaction. In order to investigate how CE can increase customer satisfaction, this paper addresses the following research questions juxtaposed to the general question of how CE works with regard to an SME in a located in a B2D market: RQ1. How can Honebein and Cammarano's CE model be used in the coffee sector to create customer satisfaction? RQ2. Is Honebein and Cammarano's CE model appropriate for building customer satisfaction in the coffee sector? In exploring and answering these research questions, this paper first reviews the CE literature, and proposes and adapts Honebein and Cammarano's CE model. Second, this model is applied, through an in-depth interview with the Marketing Director, to an Italian major private coffee distributor. Finally results of this depth interview are discussed in order to offer nascent managerial implications and draw conclusions of the paper.

## THE ROLE OF CUSTOMER EDUCATION (CE)

In the last years there has been increasing demand for CE because of usage criteria (Aubert, 2006), complex services and novice consumers (Burton, 2002). Such education can be delivered through educational programs such as professional advice, blogs, seminars, advertising, forums and other online and offline activities (Suh *et al.*, 2015). CE can result in several organizational advantages: it enhances individual product knowledge, facilitates product purchases (Zhou *et al.*, 2013), enhances customer loyalty through perceived service quality (Suh *et al.*, 2015) and can have great potential for attracting and retaining customers. The purpose of any educational approach is often to change behavior (Honebein and Cammarano, 2011). Bloom (1956) developed an important model that promotes higher forms of thinking in education, such as analyzing and evaluating, rather than just teaching students to remember facts (rote learning) and shares learning in three domains: cognitive, affective and psychomotor. Nevertheless, when applying this early model in practice, it turned out that it did not always work to change behavior. Therefore, Gilbert (1978) discovered along with other colleagues new solutions for changing behavior, many of which were not focused on education in the traditional sense. This concept became known as 'human performance' (as discussed by Cammarano and Honebein, 2011). In designing education, it is essential to clearly define what an audience can and may learn. Thus, a content and task analysis needs to be carried out. For developing content, existing content sources, interview subject-matter experts, and other educational material can be considered. Nevertheless, these sources only answer the question of what customers need to know partially. Therefore, it is important that businesses ask their customers what they need to know and what they would like to do. This aspect is part of the innovatory aspects of CE, as it gives the taught group or individuals the opportunity of self-designing their education. This approach is thus not primarily teacher-centered, but more student-centered, or business-centered in the case of business (Honebein

and Cammarano, 2011). In order to adopt such an approach, companies might organize groups of customers, provide them with a general description of what the company does, and then ask the customers to write down any questions they may have about the subject. With these questions, the content and delivery format of the teaching program can be adjusted. Follow-up discussion to the questions involves comprehension of why a customer needs to know the answer to the question she or he posed before and to prioritize the questions. The question “Why?” as a response to the customer becomes thus an essential part of the teaching, as it enables the customer to explore the answers to her or his questions personally. Trust plays a very important role in this context. Before a customer can develop a certain attitude toward a brand (as described in Bloom’s 1956 model), the customer needs to have certain knowledge or skills that may eventually align with the attitude (Honebein and Cammarano, 2011). When preparing the content for the customer teaching, it is crucial to prioritize topics and to find the most essential aspects, as too much content might not be recalled (Honebein and Cammarano, 2011). In general, there is a strong relationship between marketing and customer education, so it is beneficial to adopt an integrated marketing communications approach for disseminating CE. Such a concept seeks to appropriately mix advertising, personal selling, public relations, direct marketing, and sales promotion media channels in a customer-oriented manner. Every customer touchpoint should be seen as an opportunity for education (Honebein and Cammarano, 2011). Other models developed different aspects of customer education. An important model, for example, has been developed by Temerak *et al.* (2009): this is an overarching model of the relationship between customer education and customer participation. It consists of consists of four basic parts, namely, forms of customer education, forms of customer participation , psychological mechanisms mediating customer education – participation relationships and contextual factors moderating customer education effects.

## INTRODUCTION TO THE MODEL OF CUSTOMER EDUCATION

Honebein and Cammarano (2005) connected Gilbert’s (1978) concepts with respect to ‘human performance’ with their own approach and coined their term as ‘customer performance’. This revised term necessitates orchestration of four crucial elements in creating a customer experience focused upon changing a customers’ behavior so that this customer can successfully accomplish jobs and tasks. These are shown and modelled in Figure 1:

- (1) Vision: goals, feedback, and expectations that guide and shape performance;
- (2) Access: the experience environment includes processes, tolls, interfaces, and information, that enables performance;



(3) Incentives: Rewards and punishments that motivate performance;

(4) Expertise: Customer education that enhances the knowledge, skills and attitudes required for performance (Honebein and Cammarano, 2005).

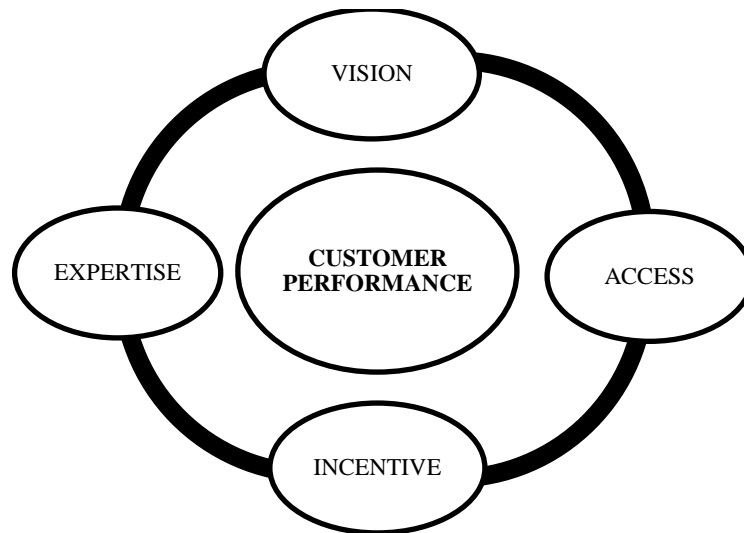


Figure 1. *The customer performance model*

Source: *Adapted from Honebein and CAMMARANO (2005)*

The nature of the task is not of principle importance, as an experience that effectively orchestrates the four elements permits better customer performance and thus successful completion of the respective task, which leads to greater customer satisfaction. It is thus important to associate “customer performance” with “customer education”, as the performance experience is crucial for education (Honebein and Cammarano, 2005). According to Honebein and Cammarano (2011), six qualities of well-designed CE need to be embraced. These qualities are shown below and synthesized through the model in Figure 2.

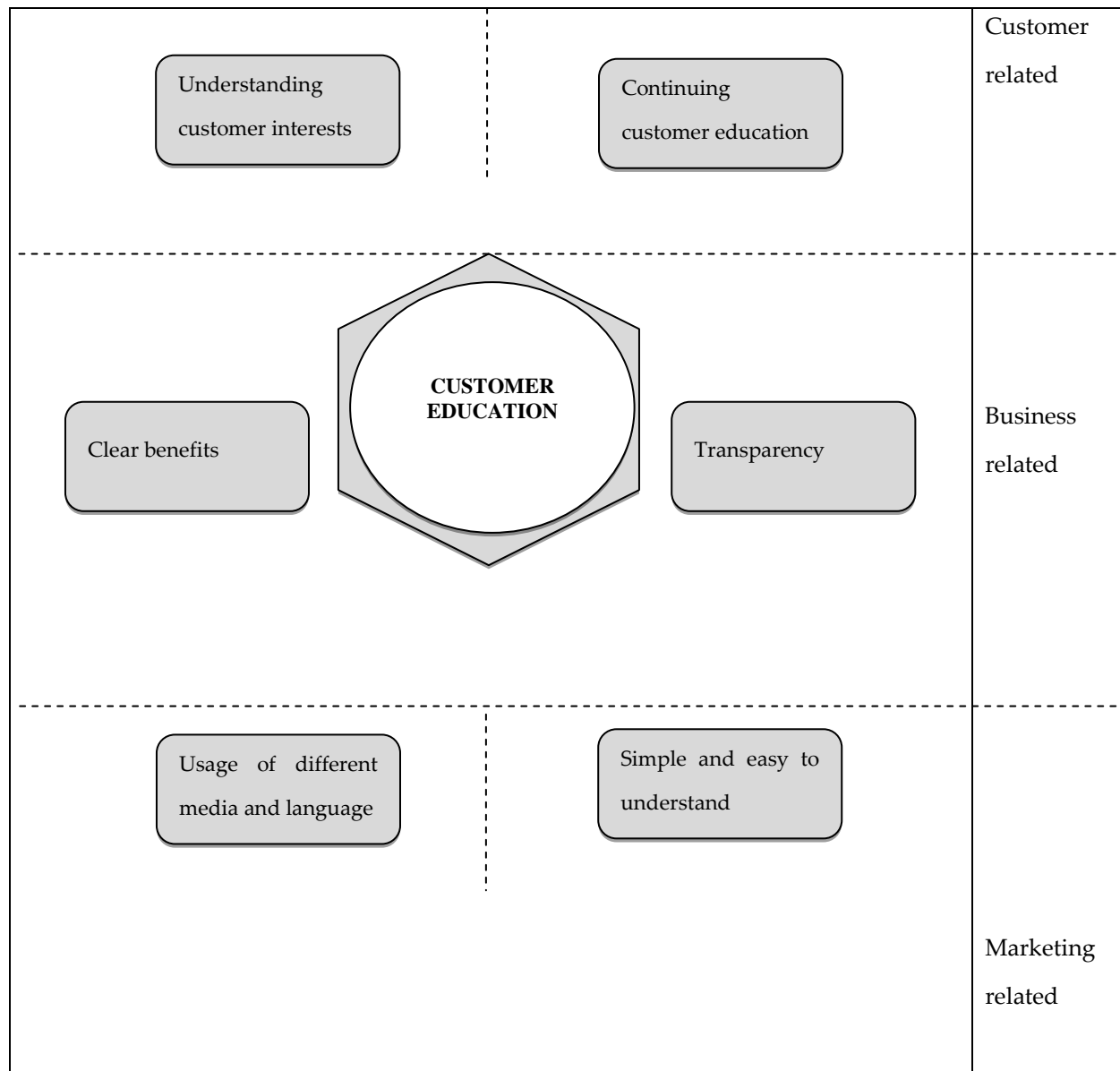


Figure 2. *The Customer education model*

Source: *Our own elaboration based on Honebein and Cammarano (2011)*

Transparency (1) is very important for CE, as customer concerns may increase otherwise. It is essential to pro-actively disclose information that smart customers might interpret wrongly, so business may use transparency to reinforce customer trust. Another crucial aspect is that customers need to be educated about the benefits of the teaching (2). Businesses position product features as benefits. Another issue is that CE consists of rationally-framed benefits that sometime do not generate attention or interest or may be obtuse. The usage of different media and language (3) is also very important. Usually, this concerns the employees of a business, as they can serve as brand ambassadors. At the same time, other media can be used for transmitting CE messages. Language and imagery play an important role in this context. It is also crucial that such education be continuous (4), as it is more

effective when it is designed as a process and not as an event. It is commonly agreed that effective education relies on repetition. The usage of simple language (5) is another crucial aspect for educating customers. There are quantitative and qualitative concepts for ensuring this. A quantitative rule is that only a certain number of information bullet points should be communicated, and that easy expressions without the usage of passive voice should be used. A qualitative technique is to consider three learning styles: verbal, visual, and kinesthetic. Last but not least, trying to understand the customer's interests (6) is also essential for customer education. The needs and interests of a customer can be considered by questioning them, but it is important to provide the opportunity for a customer to dig further in a certain topic that is especially important to them. A so-called 'opt-in' concept is recommended, as teaching only minimalistic information might incite customers to become more interested in a special issue (Honebein and Cammarano, 2011).

## **THE CASE STUDY: APPLICATION OF AN EMPIRICAL TEST OF THE MODEL FOR A MAJOR PRIVATE COFFEE DISTRIBUTOR**

### *Methodology*

In order to illustrate whether and how CE can increase customer satisfaction we seek to verify if the model of Honebein and Cammarano can be applied to the coffee sector and indeed if it is suitable to create customer satisfaction, leading on to an exploration of the two research questions. In order to arrive at this point we describe the different qualities affecting Honebein and Cammarano's model throughout the literature review, before adapting the model. Then we apply the adapted model to the Italian case of a major private coffee distributor. Case study methodology can be defined as "*An empirical inquiry about a contemporary phenomenon (e.g., a "case"), set within its real-world context-especially when the boundaries between phenomenon and context are not clearly evident*" (Yin, 2009, p. 18)". In particular, it can be used in different situations (Yin, 2012) such as: (1) when the research addresses a descriptive or an exploratory question as we do here i.e. RQ1: How can Honebein and Cammarano's Customer Education Model be used in the coffee sector to Create Customer Satisfaction? (2) by emphasizing the study of a phenomenon within its real-world context, it favors the collection of data in natural settings, compared with relying on "derived" data (Bromley, 1986, p. 23), that is data collected throughout the interview to the Marketing Director of the company. For these reasons the case study method is suitable to the topic to be investigated. The coffee sector is selected because in the last years it has invested many efforts in the development of programs of CE. In addition, this company is chosen because the six qualities of the Honebein and Cammarano's model are well emphasized and applicable. In this company the word innovation is claimed to be immediately translated into education, a program able to educate customers to transmit the qualities that

characterize this coffee. We seek an in-depth understanding of the interaction between CE and purchase context. After a first round of data collection of the company and its culture, an in-depth interview was carried out with the Director of Marketing. This was structured into six sections aimed to investigate: (1) the level of presence of the six drivers (understanding of customer interests, clarity of benefits, usage of different media and language, continuing customer education, transparency, ease of understanding) through open questions. (2) the level at which they affect customer satisfaction asking the interviewee to express his level of agreement about several items through a 5-point Likert scale (1= total disagreement; 5= total agreement). This methodology allows us to explore the research questions which lead to nascent theoretical and managerial implications.

#### *Presentation of the case study*

##### *A mix of experience and passion for three generations*

The company has produced toasted coffee since the beginning of 1900 and claims to be a historic coffee company. It has been coordinated by a single family for three generations and represents an example of a modern industrial business with a strict relationship between tradition and innovation. In particular it tries to develop its customers in order to do business together (The company website). The company has coffee roasting as core business but it also has active investments in other companies in the catering and bar sector, operations in shopping malls, and direct management of a number of prestigious venues where their coffee is marketed. Coordinating this important group that unites different skills, but all related to the channel of a food service industry sector that sells food and/or beverages, has enabled them to acquire complete experience in managing venues, which range from classic cafes, bars, through to restaurants where they are able to be close to their customers. Recently they have built new headquarters with state of the art production facilities to guarantee their highest quality standards, and to face new market challenges. Their current production capacity exceeds three million kilos of coffee per year. The new headquarters contain a large training area and a specially designed Tasting Room, where the coffee are selected and where the Caffè of this company blends are expertly created and studied (The company website).

##### *Customer Education in the company opinion*

“In our *School Drink Different*”- explained the Marketing and Communication Director of the company – “we organize several courses delivered by qualified teachers and structured in different levels. In this way we transfer know-how, allowing participants (that it is service staff who use the company’s coffee in preparing hot or cold drinks) to learn several notions about the coffee plant, its manufacturing and the correct use of professional tools. We allow them to assist in tasting, to see how

to prepare main coffee products and refined cocktail drinks, happy hours, a perfect 'mise en place' and specific topics about the management of a bar . At the end of the course we deliver a participation attestation and the Coffee Passion guide. Up to now the typical barman who attends our courses is between 20-45 years old, is the bar owner or an employer, has a secondary school degree, sometime in the catering sector".

#### *School "Drink Different"*

*"We believe that investing in training is of increasing importance to enable developing a business and increase its competitive edge. Our specialized "School Drink Different" twinned with our precious experience in the world of coffee can transfer all of our know-how and our espresso culture to you, in your territory".* Throughout this school the company offers customers the possibility to acquire professional skills and to distinguish themselves from others, providing also specialized training to preselected staff members of the company. The training, organized at different levels, transmits fundamental notions about: the coffee plant, its processing, the proper use of professional equipment, interesting sampling tests, the right methods to prepare coffee products, the refined Drink Different cocktails, and in-depth information on how to properly set up, arrange and run a bar.

#### *Application of the model*

Replies to the two research questions are provided throughout the case study. In order to reply to the first research question "How can Honebein and Cammarano's CE Model be used in the coffee sector to Create Customer Satisfaction?" the model shown in Figure 2 has been applied to a major private coffee distributor, providing the following results: (1) *Transparency*: while customers demand transparency, being completely transparent with customers is something most utilities find challenging (Honebein and Cammarano, 2011). The concept of transparency in this company is mainly addressed to a specific type of consumers, that is bar operators or pastry chefs, given these are the participants to their educational programs. These programs are communicated by web, by brochure and through territorial sellers. Communicative style used in delivering courses is simple and easy to understand. Also information is easily accessible by participants, lessons are delivered by qualified dependents who assist participants during the course both for theoretical and practical part. Most of relationships with consumers are managed through territorial sellers and, only in few cases, by mail addressed to specific offices. This aspect (transparency) has an important effect because generally it increases trust also if only up to a certain point (Horvath and Katuscakova, 2015). For this motivation, the company considers the level of transparency of information offered as a winning driver to get trust by customers. (2) *Clear benefits*: According to the company benefits deriving by the attendance of

courses organized are communicated clearly and the most used channels are web, brochures and sellers. It is important to consider that utilities sometimes mistakenly position features as benefits (Honebein and Cammarano, 2011). This company is also very careful to verify, by means of territorial sellers, the perception of consumers about these benefits. A clear communication of benefits offered by these courses contributes to increase customer satisfaction. (3) *Usage of different media and language*: Since there is a tight relationship between marketing and CE, it is advisable to adopt an integrated marketing communications (IMC) approach (Tafesse and Kitchen, 2016) in order to disseminate customer education. In particular this approach should involve blending advertising, personal selling, public relations, direct marketing and sales promotion media channels (Honebein and Cammarano, 2011). The company uses different media to transmit consumer education concepts (media, brochures, sellers) also if there are no specific channels to specific types of customers. A relevant importance in the communication of educational courses and of information about products is played by the word-of-mouth. This is a very important tool of communication because word-of-mouth referrals have a strong impact on new customer acquisition (Trusov *et al.*, 2009) and generally, both negative and positive word-of-mouth, increase performance (Liu, 2006). According to the Marketing Director of the company the usage of different languages allows to reach a higher number of consumers. (4) *Continuing customer education*: as suggested by Honebein and Cammarano (2011) customer education must be designed as a process and not an event. This company adopts this approach, delivering courses every week. In fact to be effective, customer education must be repetitive. This is a very important aspect for the company because it allows to satisfy every type of participant and pursue educational objectives. This aspect is considered important in order to increase customer satisfaction. In fact, customer education affects customer perceived value in terms of benefits (Ben Youssef *et al.*, 2016) and, in particular, customer satisfaction (Bonfanti and Brunetti, 2014). (5) *Usage of simple language*: in this company the usage of a simple language is the rule: only information considered fundamental for each specific level of course are provided, transmitted for key points through verbal, visual and practical styles. This reflects the rules of a simple communication proposed by Honebein and Cammarano (2011): organization of elements throughout bullet points, usage a design that incorporates the three primary learning styles : verbal, visual, and kinesthetic. Relatively simple use of language is considered as very important in order to educate and satisfy consumers. (6) *Understanding of customer interests*: the company develops specific courses on the base of the customers' needs. These are analyzed by observing customers and via continuous dialogue with them. In fact, as supported by Honebein and Cammarano (2011) CE is always constructed based on the needs of an audience and these can be discovered through audience analysis, that initially should be broad in scope, given limited customer information stored in the information system and the costs of acquiring primary

data about customers. The relevance of contents of the courses delivered by the company is constantly monitored and can contribute to increase customer satisfaction. Results show a particular attention by the company to all dimensions of the customer education framework proposed in the figure 2; in the company's opinion the dimensions higher able to affect customer satisfaction are continuing CE and usage of simple language. In the application of these six qualities is emphasized also the relationship between CE and satisfaction, replying in this way also to the second research question ("RQ2. Is Honebein and Cammarano's Customer Education Model appropriate for building customer satisfaction in the coffee sector?). Each of these qualities contributes to develop customer satisfaction in different ways: transparency can affect positively trust, while clear benefits can improve the perception of the company by customers.

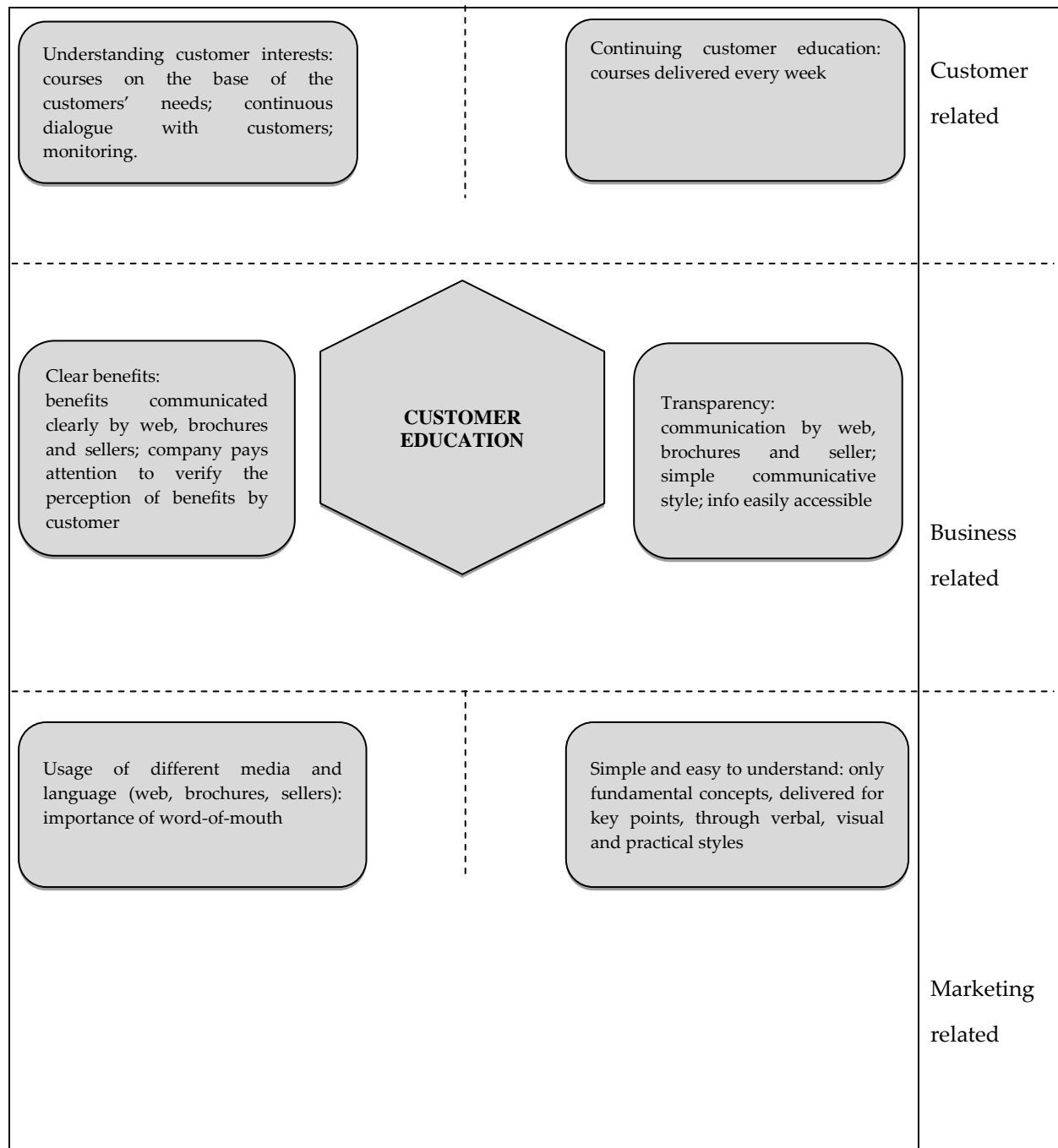


Figure 3. The Customer education model applied to a major private coffee distributor

Source: Our own elaboration based on Honebein and Cammarano (2011)

In addition throughout the usage of different media and language the company will be able to reach a higher number of consumers, more aware of the company's products, while continuing CE allows to satisfy different kinds of participant; finally usage of simple language makes easier for participants to understand contents of courses while understanding of customer interests allows to provide them the best solutions.



## CONCLUSIONS AND IMPLICATIONS

By integrating ideas from CE, consumer behavior and satisfaction, this exploratory paper provides an adaptation of the CE model by Honebein and Cammarano (2011), showing how this can be considered and used in a sector of the B2D sector to create customer learning and satisfaction. Also through the case study of a major private coffee distributor we emphasize the role played by the six dimensions (Fig. 1 and 2) in order to enhance customer satisfaction. Particular attention is given by the company to the provision of continuing CE, considering it as a process and not a single event and to the language used in communication that must (to them) be simple both at the qualitative (verbal, visual, etc.) and quantitative (bullet points) level. So, this paper provides a helpful approach in designing CE to the important Italian coffee industry. Results show how transparency, simple communication, clear benefits, CE, understanding of customer interests and usage of simple language are qualities playing a very important role in CE by an SME in the coffee industry. For motivation I in this industry it suggests businesses develop a prioritized body of content and to consider education as a process and not only an event. Furthermore companies in this sector need to embrace these qualities that will help them to ensure that their CE is effective, efficient and appealing. This adapted model could represent a potential referential framework for B2D firms interested in developing educational programs in order to increase customer satisfaction. Of course, this is only a starting point, and further quantitative work is anticipated. From the theoretical point of view this paper shows how a generic customer education model can be applied to specific industries, like that of coffee. In addition it provides a map of qualities supported by literature and confirmed by the case, able to increase the level of customer satisfaction. In particular, it demonstrates how these qualities reach this objective: transparency can increase trust, clear benefits, if well communicated, can be perceived better by customers, usage of different media and language allows to reach a higher number of consumer that will be more aware of the company's products, continuing customer education allows to satisfy every type of participant and pursue educational objectives, usage of simple language ease a better understanding of the concepts by participants, understanding of customer interests allows the company to provide the right courses, in the right way and time. Furthermore, this research offers a number of managerial implications for managers in the coffee industry who want to improve their customer education. First, it describes how customer education can contribute to increase the skills of customers and their satisfaction. Second, the development of the company's knowledge by customers can ease the process of co-creation of product/service. Furthermore, if companies can adopt this tool using a high quality communication they will be able to enhance the effectiveness of customer education. This would allow companies to verify if they are using the right channels to communicate with their customers, if the language used during the courses is appropriate for participants, if their

periodicity satisfy the needs of consumers, etc. A high attention should be devoted also to the preparation of educational materials that should be able to provide the right concepts to participants in a very simple way. Finally, companies should consider investing more in CE and consider it as a tool that, if adequately incorporated, can lead to customer satisfaction.

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## PERCEIVED EMPLOYMENT EXPERIENCE AS AN ANTECEDENT OF AFFECTIVE COMMITMENT IN EMPLOYER BRANDING

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### ABSTRACT

In this paper affective commitment as an outcome of positive employment experience (EE) and healthy employer brand is examined. The analysis reported here applies quantitative survey of 1105 employees of Lithuanian higher education institutions (HEIs) utilizing Organizational Attractiveness Extraction Scale (OAES), comprising 67 items, and measuring EE dimensions, i.e. Organizational Culture, Fairness & Trust, Teamwork, Academic Environment, Strategic Management, Job Satisfaction, Supervisor Relationship, Compensation and Benefits, Training & Development, Work-Life Balance, and Working Conditions. Affective commitment was found as a consequence of all 11 EE attributes if tested separately, but observing the combined influence of OAES dimensions, only five were found to be predictors, namely Job Satisfaction, Training and Development, Teamwork, Compensation and Benefits and Strategic Management, but Strategic Management was found to have a negative effect. Affective commitment prediction equation was produced based on EE inputs.

**Keywords:** *employment experience, affective commitment, employer branding, organizational attractiveness*

### INTRODUCTION

There are sufficient grounds to assert that building a salient employer brand stands for the most important element of finding the right talents (EB Insights, 2011), since people want to work for organizations with strong and positive reputation and prestige (Rousseau, 2008) in preference to higher wages, thus expecting a pride which will be provided by organizational membership (Cable and Turban, 2006). According to Coffman (2000), becoming an employer of choice should deliver five business outcomes: retention, productivity, profitability, customer loyalty and safety. Employer branding also helps organizations to define the kind of the desired applicants, with right abilities and cultural fit, in this way sifting out blank shots and increasing the number of high quality candidates. Next, employer's attractiveness or, simply, being a 'great place to work' helps an organization outperform its competitors and achieve financial success; it creates reputation which attracts talents; it

reduces turnover, fosters creativity and innovation of employees, sets a high-quality standard on culture, increases resistance against downturns or market shocks and eventually provides higher levels of customer satisfaction and loyalty (Great Place to Work, 2014).

Notwithstanding this, „employer brands are not really about talent attraction, but about that pot of gold at the end of the rainbow: employee engagement“ (CIPD, 2008: 10) and is by no means a key driver of it. Specifically, employer branding helps to build a more consistent *employment experience* (EE) and communication (EB Insights, 2011), and retain current employees assuring their commitment and engagement in the culture and strategy of the company they work for (Ambler and Barrow, 1996; Backhaus and Tikoo, 2004; EB Insights, 2011).

Therefore, the purpose of this study is to examine the mechanism through which employer brand, and specifically EE influences affective commitment and assists organizations in becoming an attractive employer, and staying competitive in the marketplace.

*This article suggests that* a more positive perception of EE will be associated with higher perceived affective commitment. The following objectives have been set to reach this goal:

- to explore the relationship of affective commitment and employer branding;
- to address affective commitment as a consequence of perceived EE and healthy employer brand.
- to identify EE attributes predicting affective commitment in Lithuanian and *provide practical implications*.

## AFFECTIVE COMMITMENT AND EMPLOYER BRANDING

The concept of commitment refers to employee attachment and loyalty and is closely related to job satisfaction and engagement (Armstrong, 2003). Mowday, Steers and Porter (1982: 226) define organizational commitment as “the relative strength of an individual’s identification with and involvement in a particular organization”. It has been found by Porter et al., (1974) to consist of three components: 1) a strong desire to remain a member of the organization; 2) a strong belief in and acceptance of the organization’s goals; and 3) willingness to do one’s best on behalf of the organization. In addition, Barrow and Mosley (2011) have found the terms of ‘commitment’ and ‘engagement’ to be defined as a sense of pride and belonging, belief in the organization’s products and services, satisfaction with the immediate job or career opportunities and advocating the employer to others.

Allen and Meyer (1990) have conceptualized commitment as a three-component model, integrating affective, continuance and normative commitment, where *affective commitment* draws largely on Mowday’s *et al.* (1982) concept quoted above and is considered as an “affective or emotional attachment to the organization such that the strongly committed individual identifies with, is

involved in, and enjoys membership in, the organization" (p. 2). The continuance commitment refers to the perceived costs of leaving the organization and the normative commitment denotes feelings of obligation to remain with the organization.

As summarized by Armstrong (2003), a strong commitment is likely to result in lower labor turnover, high level of effort and employee's intention to stay. An affective commitment was found to be a mediator between job satisfaction and job performance (Zhang and Zheng, 2009), and to have an indirect effect on job performance through commitment to the supervisor (Vandenberghe *et al.*, 2004). Barrow and Mosley (2011) regard engagement as a more immediate state (like weather), and view commitment as a more enduring belief in the company (like climate), though "it is possible for an engaged people to lack longer term commitment, and for a committed employee to feel temporarily disengaged" (p. 89). Furthermore, Saks (2006) suggests that organizational commitment is an attitude and attachment towards organization, whereas engagement is not an attitude but individual's work-related attention, dedication and absorption.

Although the definition and meaning of both the commitment and engagement overlap, for the purpose of this paper a commitment and more specifically, an *affective commitment* is observed for the effects of EE attributes that are packaged and promised by the employer brand "to *emotionally connect* employees so that they in turn deliver what the business promises to customers" (Sartain and Schuman, 2006: vi).

## EXPECTED RELATIONSHIPS

The positive outcomes of employer branding such as commitment (Ambler and Barrow, 1996) can be well-founded on the delivery of the deal between organization and employee. Therefore, employer branding can be seen as an attempt to express a psychological contract with employees, as far as an employer brand contains attributes that are transactional (i.e. tangible) and relational (i.e. intangible). Following psychological contract literature, employer branding allows organizations to build a consistent EE through packaging and delivering the particular employment benefits and rewards. Moreover, keeping the promise should lead to positive attitudinal outcomes, such as affective commitment, which is referred here as an emotional employee attachment and loyalty to an organization. Hence, affective commitment is a consequence of perceived EE making organization attractive as an employer.

EE is an organization-specific employment offering determining organizational attractiveness and differentiating organization's characteristics as an employer from those of its competitors (Backhaus and Tikoo, 2004: 502). This primarily means answering the fundamental question for the employee "What's in it for me?" if I work there and touches every dimension – from training, performance

management, compensation to rewards, promotion and communication – of the employee's relationship with the organization (Sartain and Schuman, 2006: 43).

Extending on the assertion from marketing literature that brands play functional, rational and symbolic roles related to the performance or representation of product or service (Kotler et al., 2009), EE will therefore encompass the totality of tangible and intangible reward features provided to and valued by employees, cumulatively constituting an authentic employment value proposition (Simmons, 2009). This, in turn, brings “focus and consistency to the employee's experience of the organization” (Barrow and Mosley, 2011: 117) and is a most compelling and common reason given for employees' commitment, engagement and loyalty to the organization. Accordingly, the specific research question is: *does more positive perception of EE associate with higher perceived affective commitment?*

Elaborating on employer branding outcomes with a particular focus on affective commitment, this study was carried out in Lithuanian higher education sector since “in many countries the career patterns and employment conditions of academic staff as well as the attractiveness of the academic workplace for the coming generation are of a major concern” (Enders and Weert, 2004: 12). Academic profession, continuously experiencing lowering salaries, increasing work load, loss of status and job security, external scrutiny and accountability, gradual diminution of professional self-regulation, rush towards part-time and short-term contracts and deepening culture of mistrust (Enders and Weert, 2004; Court and Kinman, 2008; Edwards et al., 2009; Altbach, 2000; Tytherleigh et al., 2005; Teichler and Höhle, 2013), is “under stress as never before” (Altbach et al., 2009: 1).

Considering the fact that the demand for highly qualified employees will strongly increase in the years ahead and officially acknowledged potential of higher education to „help deliver jobs, prosperity, quality of life and global public goods“ (European Commission, 2011: 2) it is crucial to ensure that academic workplace as a “substantial reservoir of knowledge, talent and energy” (European Commission, 2012: 11) will recover the lost ground offering “working conditions appropriate to the academic environment that encourage creativity and innovation” (Enders and Weert, 2004: 5) and will “again become a profession-with appropriate training, compensation, and status ... to attract talented young scholars and to keep them in the profession” (Altbach et al., 2009: 1).

## METHODOLOGY

An Organizational Attractiveness Extraction Scale (OAES) (Bendaravičienė, 2015) was used to measure perceived EE in Lithuanian HEIs. OAES comprises 67 items, measuring 11 dimensions, i.e. Organizational Culture, Fairness & Trust, Teamwork, Academic Environment, Strategic Management, Job Satisfaction, Supervisor Relationship, Compensation and Benefits, Training & Development,

Work-Life Balance, and Working Conditions. In order to test reliability of OAES with the present study data, a series of Cronbach's alphas were calculated for each of the 11 factors ranging from 0.675 to 0.953 with only one factor (Work-Life Balance) returning coefficient lower than 0.70. The organizational attractiveness inventory was found to be highly reliable (67 items; Cronbach alpha = .985).

All 67 instrument statements were positively worded. The list of scale items was randomly mixed not to provide the respondents with a clue as to what dimension is being measured and to avoid inertia and bias. 10-point Likert scale was used for evaluation of each item capturing employees' *perceptions about the actual EE* in the particular HEI. Respondents were asked to assess whether the statement reflects actual EE in the particular HEI, with "1" used to indicate "least experienced" (lowest perceived EE), and "10" – "most experienced" (highest perceived EE).

The original eight-item Affective Commitment Scale developed by Allen and Meyer (1990) was included to measure employees' "emotional attachment to, identification with, and involvement in the organization" (Meyer et al., 2002: 21). In alignment with the authors' recommendations (Meyer and Allen, 2004), a 7-point disagree-agree scale of response options was converted to a 10-point scale, with negatively keyed items being reversed avoiding potential confusion. The scale was also translated into Lithuanian. Evaluation of items, such as "I would be very happy to spend the rest of my career with this organization", "This organization has a great deal of personal meaning for me" or "This organization has a great deal of personal meaning for me" ranged from "1 = strongly disagree" to "10 = strongly agree".

Additionally, demographics of age, gender, tenure in organization, job position (supervising and subordinate) and group (academic and administrative staff) were examined.

An internet-based survey was preferable to mail or telephone surveys and was used as a research tool. The study reported here was carried out in 19 Lithuanian higher education institutions – 7 universities (N = 715) and 12 colleges (N = 390) in 2012-2013. Table 1 below shows demographic characteristics of the total sample (N = 1105).

Total sample			Universities		Colleges	
Characteristics	Frequency	Percentage	Frequency	Percentage	Frequency	Percentage
Gender						
Females	636	59.6	378	53.0	258	72.9
Males	431	40.4	335	47.0	96	27.1
Age						
<=25	25	2.30	20	2.7	5	1.4
26-35	317	28.9	219	30.0	98	26.8
36-45	308	28.1	203	27.8	105	28.8



46-55	239	21.8	144	19.7	95	26.0
>55	206	18.8	144	19.7	62	17.0
<b>Employee group #1</b>						
Academic staff	808	74.1	559	77.0	249	68.0
Administrative staff	282	25.9	165	22.7	117	32.0
<b>Employee group #2</b>						
Subordinate staff	837	77.3	575	79.6	262	72.2
Supervising staff	246	22.7	145	20.1	101	27.8
<b>Tenure</b>						
<5	294	26.9	158	21.8	136	37.2
6-10	255	23.4	168	23.1	87	23.8
11-15	189	17.3	143	19.7	46	12.6
>=16	354	32.3	256	35.3	97	26.5

Table 1. *Demographic characteristics of the sample*

On-line research methods allow sample size calculation only hypothetically and, usually, having information about population a confidence interval with a chosen confidence level is calculated after the survey. According to the information of Statistics Lithuania (2013), there were 22168 full-time equivalent staff members in Lithuanian higher education as of academic year 2011-2012. It should be noted there that it was not possible to obtain information about staff members in separate HEIs. Therefore the population from which the sample was made was  $N = 22168$ . Altogether,  $n = 1105$  questionnaires were returned, from which  $n_1 = 715$  with proportion of  $p = 0.65$  represented universities, and  $n_2 = 390$  with proportion of  $p = 0.35$  represented colleges. Sample size calculations were performed using a confidence level of 95 and showed that the confidence interval with a sample size of  $n = 1105$  would be  $\pm 2.87\%$ . Therefore, the sample size of  $n = 1105$  allows to generalize to the whole population with the confidence level of 95 % and the confidence interval of  $\pm 2.87\%$ .

## RESULTS

The data of the survey was analyzed applying IBM SPSS Statistics 19 for Windows software package. Analysis of data included means and standard deviations for each OAES dimension. Total mean of Affective Commitment Scale responses was also calculated.

Regression analysis as a form of predictive modelling technique was applied. Linear regression analysis is a statistical technique that is used to analyze the relationship between a dependent (criterion) and one or more independent (predictor) variables (Hair, 2010; Hanneman *et al.*, 2013). In

other words, regression concentrates on predicting an outcome or value of the dependent variable on the basis of values of one or more independent variables (Hanneman *et al.*, 2013; Babbie, 2013).

A series of simple linear regressions were used to predict Affective Commitment (AFFCOM) from EE attributes Organizational Culture (ORGC), Fairness & Trust (FAIRT), Teamwork (TEAMW), Academic Environment (ACADE), Strategic Management (STRATM), Jobs Satisfaction (JOBS), Supervisor Relationship (SUPR), Compensation and Benefits (COMPB), Training & Development (TRAIND), Work-Life Balance (WORKLB) and Working Conditions (WORKC).

As Table 2 indicates, ORGC statistically significantly predicted AFFCOM,  $F(1,939) = 536.345$ ,  $p < .05$ ,  $R^2 = .364$ . ORGC added statistically significantly to the prediction,  $p < .05$ , the regression equation can be presented as:

$$\text{AFFCOM} = 2.825 + 0.652 \cdot \text{ORGC}.$$

Model	Unstandardized Coefficients		Standardized Coefficients	t	Sig.
	B	Std. Error	Beta		
1 (Constant)	2.825	.198		14.278	.000
ORGC	.652	.028	.603	23.159	.000

Table 21. Simple Regression Results Using Organizational Culture as the Independent Variable

As Table 3 shows, FAIRT statistically significantly predicted AFFCOM,  $F(1,976) = 490,897$ ,  $p < .05$ ,  $R^2 = .335$ . FAIRT added statistically significantly to the prediction,  $p < .05$ , the regression equation can be presented as:

$$\text{AFFCOM} = 3.729 + 0.541 \cdot \text{FAIRT}.$$

Model	Unstandardized Coefficients		Standardized Coefficients	t	Sig.
	B	Std. Error	Beta		
1 (Constant)	3.729	.168		22.249	.000
FAIRT	.541	.024	.578	22.156	.000

Table 32. Simple Regression Results Using Fairness and Trust as the Independent Variable

As Table 4 demonstrates, TEAMW statistically significantly predicted AFFCOM,  $F(1,988) = 500.646$ ,  $p < .05$ ,  $R^2 = .336$ . TEAMW added statistically significantly to the prediction,  $p < .05$ , the regression equation can be presented as:

$$\text{AFFCOM} = 1.843 + 0.743 \cdot \text{TEAMW}.$$

Model	Unstandardized Coefficients		Standardized Coefficients	t	Sig.
	B	Std. Error	Beta		
1 (Constant)	1.843	.246		7.492	.000

TEAMW	.743	.033	.580	22.375	.000
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Table 43. Simple Regression Results Using Teamwork as the Independent Variable

As Table 5 informs, ACADE statistically significantly predicted AFFCOM,  $F(1,1006) = 471.444$ ,  $p < .05$ ,  $R^2 = .319$ . ACADE added statistically significantly to the prediction,  $p < .05$ , the regression equation can be presented as:

$$\text{AFFCOM} = 2.072 + 0.734 \cdot \text{ACADE}.$$

Model	Unstandardized Coefficients		Standardized Coefficients	t	Sig.
	B	Std. Error	Beta		
1 (Constant)	2.072	.243		8.535	.000
ACADE	.734	.034	.565	21.713	.000

Table 54. Simple Regression Results Using Academic Environment as the Independent Variable

As Table 6 depicts, STRATM statistically significantly predicted AFFCOM,  $F(1,972) = 484.029$ ,  $p < .05$ ,  $R^2 = .332$ . STRATM added statistically significantly to the prediction,  $p < .05$ , the regression equation can be presented as:

$$\text{AFFCOM} = 3.215 + 0.611 \cdot \text{STRATM}.$$

Model	Unstandardized Coefficients		Standardized Coefficients	t	Sig.
	B	Std. Error	Beta		
1 (Constant)	3.215	.192		16.760	.000
STRATM	.611	.028	.577	22.001	.000

Table 6. Simple Regression Results Using Strategic Management as the Independent Variable

As it is shown in Table 7, JOBS statistically significantly predicted AFFCOM,  $F(1,973) = 652.431$ ,  $p < .05$ ,  $R^2 = .401$ . JOBS added statistically significantly to the prediction,  $p < .05$ , the regression equation can be presented as:

$$\text{AFFCOM} = -0.099 + 0.921 \cdot \text{JOBS}.$$

Model	Unstandardized Coefficients		Standardized Coefficients	t	Sig.
	B	Std. Error	Beta		
1 (Constant)	-.099	.291		-.342	.733
JOBS	.921	.036	.634	25.543	.000

Table 7. Simple Regression Results Using Jobs Satisfaction as the Independent Variable

As Table 8 indicates, SUPR statistically significantly predicted AFFCOM,  $F(1,1009) = 296.703$ ,  $p < .05$ ,  $R^2 = .227$ . SUPR added statistically significantly to the prediction,  $p < .05$ , the regression equation can be presented as:

$$\text{AFFCOM} = 3.729 + 0.450 \cdot \text{SUPR}.$$

Model	Unstandardized Coefficients		Standardized Coefficients	t	Sig.
	B	Std. Error	Beta		
1 (Constant)	3.729	.211		17.668	.000
SUPR	.450	.026	.477	17.225	.000

Table 8. Simple Regression Results Using Supervisor Relationship as the Independent Variable

As Table 9 lists, COMPB statistically significantly predicted AFFCOM,  $F(1,987) = 515.178$ ,  $p < .05$ ,  $R^2 = .343$ . COMPB added statistically significantly to the prediction,  $p < .05$ , the regression equation can be presented as:

$$\text{AFFCOM} = 4.158 + 0.546 \cdot \text{COMPB}.$$

Model	Unstandardized Coefficients		Standardized Coefficients	t	Sig.
	B	Std. Error	Beta		
1 (Constant)	4.158	.147		28.312	.000
COMPB	.546	.024	.586	22.698	.000

Table 9. Simple Regression Results Using Compensation and Benefits as the Independent Variable

As it is set in Table 10, TRAIND statistically significantly predicted AFFCOM,  $F(1,1012) = 599.092$ ,  $p < .05$ ,  $R^2 = .372$ . TRAIND added statistically significantly to the prediction,  $p < .05$ , the regression equation can be presented as:

$$\text{AFFCOM} = 3.130 + 0.625 \cdot \text{TRAIND}.$$

Model	Unstandardized Coefficients		Standardized Coefficients	t	Sig.
	B	Std. Error	Beta		
1 (Constant)	3.130	.176		17.783	.000
TRAIND	.625	.026	.610	24.476	.000

Table 10. Simple Regression Results Using Training and Development as the Independent Variable

As Table 11 shows, WORKLB statistically significantly predicted AFFCOM,  $F(1,1029) = 230.739$ ,  $p < .05$ ,  $R^2 = .183$ . WORKLB added statistically significantly to the prediction,  $p < .05$ , the regression equation can be presented as:

$$\text{AFFCOM} = 4.168 + 0.445 \cdot \text{WORKLB}.$$

Model	Unstandardized Coefficients		Standardized Coefficients	t	Sig.
	B	Std. Error	Beta		
1 (Constant)	4.168	.210		19.819	.000
WORKLB	.445	.029	.428	15.190	.000

Table 11. Simple Regression Results Using Work-life Balance as the Independent Variable

As Table 12 informs, WORKC statistically significantly predicted AFFCOM,  $F(1,1009) = 383.335$ ,  $p < .05$ ,  $R^2 = .275$ . WORKC added statistically significantly to the prediction,  $p < .05$ , the regression equation can be presented as:

$$\text{AFFCOM} = 3.601 + 0.539(\text{WORKC}).$$

Model	Unstandardized Coefficients		Standardized Coefficients	t	Sig.
	B	Std. Error	Beta		
1 (Constant)	3.601	.193		18.631	.000
WORKC	.539	.028	.525	19.579	.000

Table 12. Simple Regression Results Using Working Conditions as the Independent Variable

Overall, the results of simple linear regression indicated that a dependent variable AFFCOM can be explained by all independent variables to a certain extent. The most important predictors are found to be JOBS ( $R = .634$ ;  $R^2 = .401$ ) and TRAIND ( $R = .610$ ;  $R^2 = .372$ ), the least important predictors are found to be WORKLB ( $R = .428$ ;  $R^2 = .183$ ) and SUPR ( $R = .477$ ;  $R^2 = .227$ ).

Next, in order to reach conclusions not only about the precision of the prediction and the size of effect separate independent variables have on the dependent variable, but also about the simultaneous contribution of eleven predictors to AFFCOM and the relationship between the dependent variable and the independent variables, controlling for the other independent variables, the simple regression models are extended to multiple regression.

According to the reported R-squared statistics,  $R^2$  of AFFCOM predicted by combination of eleven EE attributes is 0.477 therefore it is possible to explain 47.7 percent of the total variance in affective commitment by taking into consideration a combination of these predictors. This indicates that regression model predictions are quite precise. Additionally, the assumption that the residuals are not correlated serially from one observation to the next was checked using Durbin-Watson Statistic ranging from 0 to 4, where value close to 0 indicates a strong positive correlation, a value of 4 indicates strong negative correlation, and a value close to 2 indicates that residuals are not correlated. For this analysis, the value of Durbin-Watson is 1.957 (see Table 13) and it falls into the interval of critical values (1.83; 2.17) indicating no serial correlation.

Model	R	R Square	Adjusted R Square	Std. Error of the Estimate	Durbin-Watson
1	.691	.477	.469	1.596	1.957

Table 13. Affective commitment and EE attributes: Model Predictions

Determining whether the model is a good fit for the data F-value was examined in ANOVA and indicated that it is because  $p$  is less than .05 and the  $R^2$  result is statistically significant ( $F(11,719) = 59.6$ ,  $p < .05$ ) (see Table 14). Accordingly, this leads to the rejection of null hypothesis that no independent variable has an effect on  $Y$ .

Model		Sum of Squares	df	Mean Square	F	Sig.
1	Regression	1671.068	11	151.915	59.641	.000
	Residual	1831.406	719	2.547		
	Total	3502.475	730			

Table 145. *Affective commitment and EE attributes: Goodness of Fit*

Having passed the global hypothesis test, partial effects are examined in a multiple regression model. Based on unstandardized coefficients for each predictor the equation for the regression line is:

$$Y(\text{AFFCOM}) = 0.052 - 0.010 \cdot (\text{ORGC}) + 0.011 \cdot \text{FAIRT} + 0.198 \cdot \text{TEAMW} + 0.070 \cdot \text{ACADE} - 0.187 \cdot \text{STRATM} + 0.507 \cdot \text{JOBS} - 0.023 \cdot \text{SUPR} + 0.139 \cdot \text{COMPB} + 0.246 \cdot \text{TRAIND} - 0.035 \cdot \text{WORKLB} + 0.067 \cdot \text{WORKC}$$

Using Student t-tests it could be seen from Table 15 though that only five partial effects are statistically significant ( $p < .05$ ). Further, assessing the degree and impact of multicollinearity VIF of 10,409 for ORGC indicates the linear dependence of this independent variable on other independent variables. If collinearity is a problem, the first choice solution is the elimination of independent variables with large VIF from the analysis (Hair, 2010). However, this method is misguided if the variable is selected due to the theory of the model which is the case with ORGC. Therefore the model is left as it is, despite multicollinearity, while the lowered level of overall predictive ability is acknowledged and more emphasis is placed on simple correlations (Ibid.).

Model	Unstandardized Coefficients		Standardized Coefficients	t	Sig.	Correlations			Collinearity Statistics	
	B	Std. Error	Beta			Zero-order	Partial	Part	Tolerance	VIF
1 (Constant)	.052	.385		.135	.893					
ORGC	-.010	.096	-.009	-.101	.920	.596	-.004	-.003	.096	10.409
FAIRT	.011	.075	.012	.151	.880	.579	.006	.004	.119	8.416
TEAMW	.198	.070	.152	2.822	.005	.577	.105	.076	.250	4.001
ACADE	.070	.069	.054	1.015	.310	.566	.038	.027	.259	3.865
STRATM	-.187	.082	-.172	-2.283	.023	.576	-.085	-.062	.128	7.804
JOBS	.507	.072	.336	7.083	.000	.637	.255	.191	.323	3.094
SUPR	-.023	.040	-.024	-.564	.573	.475	-.021	-.015	.415	2.408
COMB	.139	.052	.147	2.679	.008	.592	.099	.072	.241	4.152
TRAIND	.246	.057	.237	4.344	.000	.620	.160	.117	.245	4.085
WORKLB	-.035	.043	-.033	-.826	.409	.441	-.031	-.022	.450	2.224
WORKC	.067	.053	.064	1.254	.210	.532	.047	.034	.276	3.627

Table 156. *Affective commitment and EE attributes: Partial Effects and Collinearity Diagnostics*

In determining which independent variables contribute significantly to explaining the variability in the dependent variable, a sequential search method of *stepwise estimation* was employed. This procedure enables to examine the contribution of each independent variable by selecting the independent variable having the highest correlation with the dependent variable first, testing whether

the percent variation explained is statistically significant, adding next independent variable, recomputing the regression equation and continuing this procedure by examining all independent variables. Variables that do not make a significant contribution are eliminated until the best model is determined.

Model	Variables Entered	Variables Removed	Method
1	JOBS	.	Stepwise (Criteria: Probability-of-F-to-enter <= .050. Probability-of-F-to-remove >= .100).
2	TRAIND	.	Stepwise (Criteria: Probability-of-F-to-enter <= .050. Probability-of-F-to-remove >= .100).
3	TEAMW	.	Stepwise (Criteria: Probability-of-F-to-enter <= .050. Probability-of-F-to-remove >= .100).
4	COMPB	.	Stepwise (Criteria: Probability-of-F-to-enter <= .050. Probability-of-F-to-remove >= .100).
5	STRATM	.	Stepwise (Criteria: Probability-of-F-to-enter <= .050. Probability-of-F-to-remove >= .100).

Table 167. *Variables Entered/Removed*

Table 16 tells which variables were included in the model at each step: "JOBS" was the single best predictor (step 1), and "TRAIND" was the next best predictor (added the most) after "JOBS" was included in the model (step 2), and "TEAMW" was another best predictor after "JOBS" and "TRAIND" were included in the model (step 3), and "COMPB" was another best predictor after "JOBS", "TRAIND" and "TEAMW" were included in the model (step 4), and (STRATM) was the last best predictor, after "JOBS", "TRAIND", "TEAMW" and "COMPB" were included in the model (step 5). Variables ORGC, FAIRT, ACADE, SUPR, WORKLB and WORKC were excluded from the model.

Model	R	R Square	Adjusted R Square	Std. Error of the Estimate	Durbin-Watson
1	.637a	.405	.404	1.69049	
2	.676b	.457	.456	1.61590	
3	.683c	.466	.464	1.60380	
4	.686d	.471	.468	1.59744	
5	.689e	.475	.471	1.59318	1.921

a. Predictors: (Constant), JOBS

b. Predictors: (Constant), JOBS, TRAIND

c. Predictors: (Constant), JOBS, TRAIND, TEAMW

d. Predictors: (Constant), JOBS, TRAIND, TEAMW, COMPB

e. Predictors: (Constant), JOBS, TRAIND, TEAMW, COMPB, STRATM

Table 178. *Model Summary*

R-squares in Table 17 inform that with "JOBS" alone (step 1), 40.5% of the variance in AFFCOM was accounted for, and 47.5% of the variation in AFFCOM is explained by having JOBS, TRAIND, TEAMW, COMPB and STRATM in the model. Five F-tests (see Table 18), one for each step of the procedure, had overall significant results ( $p < .05$ ).

Model		Sum of Squares	df	Mean Square	F	Sig.
1	Regression	1419.173	1	1419.173	496.605	.000a
	Residual	2083.302	729	2.858		
	Total	3502.475	730			
2	Regression	1601.569	2	800.784	306.681	.000b
	Residual	1900.906	728	2.611		
	Total	3502.475	730			
3	Regression	1632.498	3	544.166	211.558	.000c
	Residual	1869.977	727	2.572		
	Total	3502.475	730			
4	Regression	1649.847	4	412.462	161.634	.000d
	Residual	1852.628	726	2.552		
	Total	3502.475	730			
5	Regression	1662.259	5	332.452	130.978	.000e
	Residual	1840.216	725	2.538		
	Total	3502.475	730			

a. Predictors: (Constant), JOBS

b. Predictors: (Constant), JOBS, TRAIND

c. Predictors: (Constant), JOBS, TRAIND, TEAMW

d. Predictors: (Constant), JOBS, TRAIND, TEAMW, COMPB

e. Predictors: (Constant), JOBS, TRAIND, TEAMW, COMPB, STRATM

Table 189. ANOVA

Unstandardized coefficients that determine the least-squares regression line indicate how AFFCOM is predicted to increase for a one-unit change in four independent variables JOBS, TRAIND, TEAMW and COMP. Interestingly, AFFCOM is predicted to decrease for a one-unit change in STRATM. Thus, the prediction equation found in the regression model step 5 is:

$$Y(\text{AFFCOM}) = 0.168 + 0.495 \cdot \text{JOBS} + 0.263 \cdot \text{TRAIND} + 0.204 \cdot \text{TEAMW} + 0.153 \cdot \text{COMPB} - 0.144 \cdot \text{STRATM}$$

Identifying which independent variable has the bigger effect controlling for affective commitment, standardized coefficients were analyzed (see Table 19). The standardized coefficient for JOBS is 0.328, indicating that increase of one standard deviation in AFFCOM is associated with increase of 0.328 standard deviation in JOBS.

Model		Unstandardized Coefficients		Standardized Coefficients	t	Sig.	Collinearity Statistics	
		B	Std. Error	Beta			Tolerance	VIF
5	(Constant)	.168	.364		.462	.645		
	JOBS	.495	.067	.328	7.363	.000	.366	2.733
	TRAIND	.263	.055	.253	4.797	.000	.261	3.825
	TEAMW	.204	.059	.157	3.472	.001	.355	2.815
	COMPB	.153	.047	.161	3.225	.001	.291	3.441
	STRATM	-.144	.065	-.133	-2.211	.027	.201	4.978

Table 1910. *Coefficients*



Observing standardized coefficients of other independent variables, it could be said that predictive substantive role of JOBS is greater than of TRAIND ( $\beta = 0.253$ ) and almost twice greater than of TEAMW ( $\beta = 0.157$ ), COMPB ( $\beta = 0.161$ ) and STRATM ( $\beta = -0.133$ ).

## CONCLUSIONS AND IMPLICATIONS

In terms of theoretical contribution, this study complements the research on affective commitment as a consequence of perceived EE making organization attractive as an employer. It also provides a methodological contribution to the operationalization of employer's branding construct. The 11-dimensional Organizational Attractiveness Extraction Scale (OAES) with 67 items to collect the data was administered in 19 Lithuanian higher education institutions ( $N = 1105$ ).

In terms of practical implications, research results allow to identify EE attributes that lead to positive attitudinal outcomes, specifically, an affective commitment, this is referred therein as an emotional employee attachment and loyalty to an organization and therefore, that require a particular employers' attention and efforts to attract talented candidates and retain existing employees.

Considering one of the key named benefits of employer branding which is a power to build employee commitment (e.g., Ambler and Barrow, 1996), a series of simple linear regressions and multiple regression analysis was used in this study to test if EE attributes significantly predicted affective commitment levels.

All eleven OAES dimensions were used in the analysis and it was found that Organizational Culture ( $F(1,939) = 536.345$ ,  $p < .05$ ,  $R^2 = .364$ ), Fairness and Trust ( $F(1,976) = 490.897$ ,  $p < .05$ ,  $R^2 = .335$ ), Teamwork ( $F(1,988) = 500.646$ ,  $p < .05$ ,  $R^2 = .336$ ), Academic Environment ( $F(1,1006) = 471.444$ ,  $p < .05$ ,  $R^2 = .319$ ), Strategic Management ( $F(1,972) = 484.029$ ,  $p < .05$ ,  $R^2 = .332$ ), Job Satisfaction ( $F(1,973) = 652.431$ ,  $p < .05$ ,  $R^2 = .401$ ), Supervisor Relationship ( $F(1,1009) = 296.703$ ,  $p < .05$ ,  $R^2 = .227$ ), Compensation and Benefits ( $F(1,987) = 515.178$ ,  $p < .05$ ,  $R^2 = .343$ ), Training and Development ( $F(1,1012) = 599.092$ ,  $p < .05$ ,  $R^2 = .372$ ), Work-life Balance ( $F(1,1029) = 230.739$ ,  $p < .05$ ,  $R^2 = .183$ ) and Working Conditions ( $F(1,1009) = 383.335$ ,  $p < .05$ ,  $R^2 = .275$ ) significantly predicted affective commitment. The most important predictors were found to be Job Satisfaction and Training and Development, the least important predictors were found to be Work-life Balance and Supervisor Relationship.

Consequently, since interesting job and creativity enhancement are most significant benefits associated with attractive employer, job enrichment should be explored redesigning jobs and increasing the range and complexity of tasks so that they were more challenging and less repetitive. Employees should be also provided ample opportunities for vertical and horizontal career growth as well as continuous learning development.

These findings are consistent with previous research (e.g., Allen and Meyer, 1990) that found affective commitment to be a consequence of following experiences of employment: job challenge, role clarity, goal clarity, goal difficulty, management receptiveness, peer cohesion, organizational dependability, equity, personal importance, feedback and participation. In addition, commitment was found to be affected by supportive business strategies, investment in training and development, compensation reinforcing cooperation, participation and contribution, employee involvement, teamwork, climate of cooperation and trust, etc. (Armstrong, 2003).

Further, the combined influence of all OAES dimensions on affective commitment was evaluated extending simple regression models to multiple regressions. The results of the regression indicated, only five dimensions were predictors ( $F(5,725) = 130.978$ ,  $p < .05$ ,  $R^2 = .471$ ), namely Job Satisfaction (beta = 0.328), Training and Development (beta = 0.253), Teamwork (beta = 0.157), Compensation and Benefits (beta = 0.161), and Strategic Management (beta = -0.133) were included in the model. Job Satisfaction explained 40.5% of variance in affective commitment, 47.5% of variance was explained by all five variables.

Surprisingly, Strategic Management was found to have a negative effect on affective commitment, meaning that increase in strategic management will result in a decreased level of affective commitment. This could be explained by self-determination theory of motivation, supporting the idea that people are intrinsically motivated to behave in an effective and healthy ways (Deci and Ryan, 2012) and encourages employers to foster job autonomy, which is the direct opposite of job control, will be related to higher levels of job satisfaction and commitment and lower levels of turnover (e.g., Galletta et al. 2011).

Extending the regression analysis application suggestions from Hair (2010) to employment context, the prediction equation derived from regression analysis can be used by organizations to study how employees form their affective commitment attitudes as well as a forecasting model – to predict affective commitment based on EE inputs.

$$Y \text{ (AFFCOM)} = 0.168 + 0.495 \cdot \text{JOBS} + 0.263 \cdot \text{TRAININD} + 0.204 \cdot \text{TEAMW} + 0.153 \cdot \text{COMPB} - 0.144 \cdot \text{STRATM}$$

Accordingly, research results reveal that employee affective commitment should increase creating their job satisfaction, enabling training and development, fostering teamwork and implementing successful compensation and benefits strategy. However organizations should be careful and not place too much direction, control and formality on their employees but by contrast pursue job autonomy.

Finally, one more interesting insight follows from considering OAES dimensions as intrinsic and extrinsic factors (Herzberg et al, 1959; Herzberg, 1968) as distinguished in Table 20 below:

Intrinsic (motivator) factors	Extrinsic (hygiene) factors
Job Satisfaction	Strategic Management
Training and Development	Supervisor Relationship
Academic Environment	Teamwork
Fairness and Trust	Working Conditions
Organizational Culture	Compensation and Benefits
	Work-Life Balance

Table 2011. OAES dimensions assigned to intrinsic or extrinsic factors

Evidently, affective commitment in higher education surfaces both from intrinsic and extrinsic motivation, but it is argued (Armstrong, 2003) that exactly *intrinsic motivation*, to wit interesting, challenging and varied work, job autonomy, task identity and task significance, or otherwise job enrichment, may turn commitment into *job engagement*, which is especially common in knowledge work (Coaldrake and Stedman, 1999).

All in all, this paper provides organizations' a new proof for strengthening their employer branding strategies and focusing on positive EE as a most compelling and common reason given for employees' commitment and loyalty to the organization.

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## HOW IS AN AIRPORT BUSINESS MODEL INNOVATED? EVIDENCE FROM AN ITALIAN CASE

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### ABSTRACT

This paper investigates how an airport business model is innovated following a change in the legislative environment. Via analyzing an Italian airport, we contribute to extant research on business model in the air transport industry in two ways. First, we introduce a new kind of ownership/governance structure, that of long term concession (i.e. the concession of the comprehensive management to a private company for 30 years). Then, we explore how the business model has been refined over two distinct phases (incubation and generation phases) of the airport development.

**Keywords:** *business model innovation; airport; case study*

### 1. INTRODUCTION

Since late 1970s air transport research has mainly focused on airlines, often describing the airline market consolidation and the diffusion of low-cost carriers (Lenartowicz et al., 2013), thus overlooking at the airports evolution. Although the two traditional factors having been considered as drivers of business model innovation in the air transport industry, namely the technological innovation and the normative regulation, have been often considered as drivers of business model innovation for airlines (Daft and Albers 2013; Gillen 2006; Graf 2005), the study of business model evolution in the airports has only scantily attracted interest of both academics and managers.

This paper describes the on-going evolution of airports' business models in Italy and analyses in depth the case of Forlì airport as the first case of long-term total concession to a private company enabled by a new regulation. Digging into the business model literature, the paper uses the case of Forlì (Emilia-Romagna, Italy) airport as an exemplary case to describe an airport business model's evolution due to regulation changes. Italy represents an interesting setting since in the past Italian regional airports' revenues were generated by contractual agreements with airlines and, in case they were not able to profit (or to balance), public institutions financed them. With the recently changed National Plan of Transports, Italian government has enabled the emergence of new opportunities for airports. Henceforth, a new ownership/governance structure has been enabled via a long-term total concession

of the airport to a private company. This new ownership/governance structure is characterized by (i) the concession of the comprehensive management to a private company for 30 years, (ii) the fulfilment of some initial requirements -according to the public tender- by the concessionaire, and (iii) the respect of the object and the vocation of the airport (that still remains a public asset). In order to regulate the relationship between public institution and private, to manage the relationship between the concessionaire and the local stakeholders, and to design a new corporate strategy for growth and development of an airport such as Forlì, an innovation in business model has been required.

Linking the air transport to the strategic management literature, this paper contributes to extant literature in two ways. First, the paper introduces a new ownership/governance structure adding to Gillen (2011)'s eight kinds taxonomy a new one: long-term total concession to a private company. Second, the paper provides a dynamic description of the business model of an airport in a start-up phase, distinguishing between the incubation and generation phases of an airport that is re-born after a regulatory change. In doing this, we use Baden-Fuller and Haefliger (2013)'s definition of business model, according to which a business model is made up by four interrelated dimensions, namely the customer identification, the customer engagement, the value chain linkages and the monetization. In this context, the paper also describes how business model's components have been used in a different manner to satisfy a different audience (Doganova and Eyquem-Renault 2009) in both incubation and generation phases.

The paper is structured as follows. In the next section we review the literature on the regulation changes in the air transport industry and we describe the theoretical lenses we use in the following sections for depicting the airport business model. In the third section we describe our research design. Then, we describe the case of Forlì airport as an exemplary case study capable of shedding light on how a new business model has been introduced after a regulatory change, by distinguishing the phases of incubation and generation, and looking at how the business model has been used as a manipulating device. Managerial and theoretical implications are described in the last section.

## **2. REGULATION CHANGES AND BUSINESS MODELS IN THE AIR TRANSPORT INDUSTRY**

Airports are operating in a highly competitive, dynamic and complex environment, that of air transport industry, whose equilibrium has been disrupted by two main phenomena (Starkie 2012; Gillen and Lall 2002; Oum, Zhang, and Fu 2010): technological innovation and regulation.

The impact of technological innovation on the air transport industry is evident. In particular, the advent of the Internet has enabled the growth of low-cost cargo (LCC) at the expenses of the traditional full service airlines (Gillen and Lall 2002). This has changed not only the competitive landscape of airlines,

but also it has required a shift in the market power dynamics within the whole air transportation industry having seen (i) the emergence of new network structures that have substituted the traditional hub-and-spoke networks, and (ii) new revenue models, (iii) the vertical integration between airports and airlines as well as the need for (iv) the design of integrated transport modes capable of facing the threat deriving by substituting transportation (as high speed railways).

Regulatory issues have been instead less developed, especially with reference to airports. Extant research has in fact analysed how liberalization policies have impacted economic growth, traffic volume and traffic flow patterns with respect to airlines (Oum, Zhang, and Fu 2010), but scant attention has been posed on the impact of legislation on airports' business model evolution. Previous studies have looked at the deregulation of interstate cargo aviation in US in the late 1970s (Gillen 2011) or at the more recent EU-US open skies agreement, but have underdeveloped how new entrants may take advantage from normative changes for providing alternative business models and compete in such industries that are traditionally conceived as publics.

### *2.1. Regulation changes*

Past literature on the evolution of the management of aviation mostly focuses on the airline companies' evolution over time, taking into consideration the network (Gillen and Morrison 2005), the airline companies behavior under deregulatory market conditions with respect to the network structure choice (Berechman and De Wit, 1996), the airline companies relationships and regulatory implications with respect to airports (Starkie, 2012).

Gillen and Morrison (2005) studied the evolution of business strategies and network structure decisions in the commercial passenger aviation industry finding that the evolution of the network in the aviation sector is based on the choice of business model adopted by airlines companies; they also pointed out the strategic role of alliances between airline companies as a driver for the future evolution.

Berechman and De Wit (1996) assessed the potential of major West European airports as a strategic gateway hub after the European aviation market deregulation showing how airline companies are forced to become profitable to survive in both respective country's main airports and foreign ones.

Starkie (1996) questioned the need for a special regulatory framework for European airports arguing as bespoke contracts between airline companies and airports can be conceived as an incentive to fulfill high-margin commercial sales to passengers and to generate a favorable outcome for passengers.

To the best of our knowledge we have found only one paper that has focused on the evolution of airports over time. Gillen (2011) posited an extremely important basic assumption: in the past airports' market power were underestimated; traditionally airports were conceived as a public utility and in some cases were used as a device for some broader policy initiatives. Basing on this assumption Gillen

(2011) analyzed the evolution of airport ownership and governance describing at least eight possible structures of airports, according to the degree of ownership/governance in charge of public or private actors. Nonetheless, as he argues, this taxonomy is not exhaustive.

## *2.2. Business model innovation*

The business model concept offers a new unit of analysis in the strategic business field of the air transport industry (Graf, 2005; Zott et al., 2011). The business model may be defined as “a system that solves the problem of identifying who is (or are) the customer(s), engaging with their needs, delivering satisfaction and monetizing the value” (Baden-Fuller and Haeffliger 2013:419). Several business model dimensions have been identified by previous strategic management literature, often in order to distinguish it from related terms such as strategy and tactics (Casadesus-Masanell and Ricart, 2010; Casprini et al. 2014; Magretta, 2002; Teece, 2010). As Casadesus-Masanell and Ricart (2010) note, “strategy refers to the choice of the business model through which the firm will compete in the marketplace” while the “business model refers to the logic of the firm, the way it operates and how it creates value for its stakeholders” (p. 196). This logic may be analyzed using description of the dimensions of the business model, dimensions that widely change in terms of both number and nature, in the business model literature.

Considering extant research in air transport industry, for example, airlines’ business models have been described according to 8 dimensions (Graf 2005): product/service concept; communication concept; revenue concept; growth concept; competence configuration; organizational form; cooperation concept; coordination concept. Casadesus-Masanell and Ricart (2010), on the contrary, identified only two parts of the business model, using them for describing an airline’s business model (that of Ryanair): on the one hand there are the concrete choices made by management about how the organization must operate and on the other hand the consequences of these choices. Three types of choices are distinguished: policies choices (“the course of action that the firm adopts for its operations”), asset choices (“the decisions about tangible resources”) and governance structure (“the structure of contractual arrangements that confer decision rights over policies or assets”) choices (p. 198). Again, Baden-Fuller and Haeffliger (2013) propose a typology of business models that considers four elements. First the identification of the customers: a company may have more separate customer groups and this choice specifies whether the business model is one sided or multisided (customers pay/other pays). Second, the customer engagement or the customer proposition, that can be standard or customized. Third the value chain and linkages, i.e. the governance structure of the firm that refers to how a company delivers its products/services to the customer(s). Finally, the monetization that refers to when and how the money is raised.



Defining the dimensions of a business model is useful in order to understand how a business model evolves and may be innovated. For example, via a change in the regulation, alternative configurations of business models are available and hence the company may choose to compete using a specific business model configuration. To the extent of this paper we adopt Baden-Fuller and Haefliger (2013)'s dimensions. In this paper we focus on the business model of an airport, defined as "a multi-product firm and at its simplest it has two sides to its business: the airside market (passenger airlines and cargo companies as direct customers and fixed base operators as tenants) and the non-airside market (enplaning and deplaning passengers as direct customers and retail businesses as tenants)" (Gillen 2011: 7). An airport is in fact an infrastructure supplier in the provision of air transportation services (Gillen and Lall 2002) and it can be conceived as a multi-sided platform (Baden-Fuller and Haefliger, 2013; Teece, 2010) able to link passengers, airlines and many retail businesses.

Moreover, irrespective of the dimensions used, business model literature has noticed that beyond the design of a business model and then its pursuit through a specific strategy, a company may use its business model as a tool that need to be adapted to different audiences. Baden-Fuller and Mangematin (2013) note that a business model may be understood as a kind of configuration that is cognitively manipulable. In a recent paper, Doganova and Eyquem-Renault (2009) analyse "what business models do". According to them, business models are boundary objects with calculative and narrative aspects that entrepreneurs circulate in different spaces (such as competitions and networking events) as sense-giving objects to various audiences. The same business model is represented differently to several audiences since certain business model elements are seen as more important than other elements for specific stakeholders groups. In showing it, Doganova and Eyquem-Renault (2009) look at entrepreneurial companies during the fundraising process. Consequently, a company's business model evolves not only longitudinally (as the results of exogenous drivers), but also contingently (as the result of a different audience to talk with).

The institutional changes in norms represents a key driver in business model evolution (Sosna et al., 2010). The introduction of new formal rules, in fact, often results in challenges for incumbent firms that need to adapt their business model to the new landscape, but often also results in opportunities for new entrants. However, how a new entrant may take advantage of the new regulations in introducing a new business model has not been addressed in the air transport industry literature nor in the business model one.

### 3. RESEARCH DESIGN

This paper presents results from a single case study of the first year of the new airport of Forlì. The research design used a single descriptive case study (Siggelkow, 2007; Yin, 2003). The case is an

exemplar case in that it provides a profound perception on the role of regulation as an exogenous factor in driving an airport's business model innovation.

Forlì airport is located in the North-East side of central Italy between the central hub of Bologna and the regional airport of Rimini (that has a strongly vocation to tourism). In the past, there was not a clear national plan that designs the strategy of these three airports: basically the three airports acted as rivals fighting with price competition. Henceforth, following many years of crisis, in 2013 Forlì airport was shot down and remained closed for almost one year. Only in 2014, , a new opportunity arose with the new Italian Plan of Transport.

The Italian Plan of Transport, in fact, is forcing airports to coexist and to compete on the international market with different and more cohesive rules. In this context, Forlì airport (whose physical assets was not destroyed when the airport was closed), has had a new chance to reconfigure itself and reborn. Hence, in 2014 a public announcement was released at international level and a competition between potential concessionaires began. In 2014 after some months of selection, Mr. R. resulted to be the winning concessionaire.

In this context, we had the chance to analyze the business model in two distinct phases: before the appointment of the new concessionaire and after the concession. In such extreme case, the role of a business model as a mean via which competing for a public announcement to a mean through which cooperating in the regional (and national) environment according to the Italian Plan of Transport<sup>1</sup> is exacerbate.

In analysing this peculiar event in Italy, information was gathered from both primary and secondary sources. Primary sources included 3 semi-structured interviews with company representatives at all levels and areas as well as with some external stakeholders who were believed to know the case very well. The data collection process started in July 2014 and ended in May 2015. Interviews lasted between 30 and 180 minutes. Three key actors were interviewed: a representative of the Province, i.e. the Local Entity (Mrs. M.), the Concessionaire (Mr. R.), and an expert of the sector (Mr. S.).

Beyond these primary sources of data collection, secondary sources were collected. In particular, one of the authors had access to all the documentation and had the possibility to directly observe all the phases since she is actively participating to the Forlì airport implementation.

In the Forlì airport's business model we focused on the phases that it passed through. The key event (that of concessionaire appointment), in fact, allowed us to clearly distinguishing between a phase 1 where the potential concessionaire participate to the public selection and phase 2, when the potential concessionaire became the actual concessionaire. As in previous studies (Doganova and Eyquem-

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<sup>1</sup> In designing the new business model, in fact, Forlì airport has to clearly declare its vocation and to demonstrate through the industrial plan the way through which is possible to be sustainable over time.

Renault, 2009) we focused on the material forms that the business model took in the two phases and on how it circulated among the various actors.

#### **4. BUSINESS MODEL INNOVATION IN THE FORLÌ CASE**

##### *4.1 The rise of the long-term total concession*

The air transport industry is regulated by two main sources. First, via the art. 117 of the Italian Constitution that defines that the core competence of managing airports falls down to the central government and regions. Second, the Italian Ministry of Transports is in charge to define the operational directives through the National Plans of Transport. National Plans of Transport in the past did not consider all the same strategic objects or drivers of development. For example, the 2010 National Plan of Transport aimed to regulate flow; the Ministry of Transport focused on increasing both passenger and cargo exchanges, without considering integration of the airport in the social and economic activity of the entire catchment area. The Plan was concentrated in developing strategic programs to achieve the maximum level of “movements”, creating efficiency between different means of transportation, generating new logistic system, to improve competition in the cargo transportation, etc. The content of the 2010 National Plan of Transport was in line with the European trend in the aviation sector.

Since 2010, many changes (e.g. the global financial crises, the underestimated weight of new entrants in the airlines industry) occurred leading to several airports closures, among them that of Forlì. Henceforth, the Italian Government had to modify the guidelines of the National Plan of Transport in order to face with the environmental Italian changes, giving the possibility to a private entrepreneur to invest in airports. Henceforth, in 2014 the new National Plan of Transport is introduced.

The Plan has a special focus on defining guidelines to manage the evolution of aviation in all entire Italy, positing the fundamental drivers that will lead the future growth of the aviation sector in a global and inclusive way (i) designing a sustainable and competitive national network of transport highlighting local vocations and features; (ii) going headed for historical conflicts that affect airports presenting the same potential catchment area; (iii) with the incentive to develop a transport network as a key to solve problems of governance such as inefficiency or, basically, to reduce operative costs.

According to the 2014 Plan, airports have to become a strategic asset for the local progress: regions have to promote this development by adopting specific criteria aimed to create synergies, not only between airports, but also with the other means of transportations in the land. Under this new legislative framework, regional airports such as Forlì have to reshape themselves.

The Italian Government decided to distinguish airports on the basis of some criteria such as the strategic role, the geographic localization, the type of flow, the prevision of growth in line with

European directives. Italian airports can be classified in two types: airports of national interest and airports of local interest. The large majority of the so-called regional airports fall down in the second category.

Moreover, in parallel with the National Plan of Transport, the Italian Government (through ENAC, the Italian Civil Aviation Authority) has designed public tenders for the long-term total concession to private companies for a certain number of Italian regional airports, such as Forlì.

The decision to grant the entire management of an airport for 30 years is conceived as an additional ownership/governance structure with respect to the eight possibilities defined by Gillen (2011). Italian Government has decided to maintain the ownership of all the Italian airports and to give to a private investor(s) the possibility to manage all the possible businesses -directly and indirectly related to aviation in the area of the concession- for a period of 30 years. At the end of the concession period the concessionaire will have to give back to the Italian Government (through ENAC) the “keys” of the airport. At that time, after an in-depth-analysis, the ENAC will define the corresponding amount of money that as to be paid to the concessionaire for the incremental activities done during the concession period that lead an additional value to the airport.

#### *4.2 Business Model Innovation: the incubation and generation phases*

In 2014 the Italian Civil Aviation Authority ENAC publishes a tender for the 30-years total concession for the management of the airport of Forlì, with respect to the article 704 of the Navigation Code. Rules in the public competition are really clear: each participant would have to present some mandatory documents to fulfill the formal requirements of the tender and evaluation of participants would be based on a project of the organizational structure, corporate strategies of development and previsions of the traffic for the period of concession, a plan of the investments, a business plan, and a reimbursement for past activities of the previous company.

Mr. R. and its team submitted their proposal, beginning from a general shaping of a potential and sustainable business model that would be soon translated into a proper business plan.

According to Mr. R., in line with the Italian Plan of Transport and not being interested to reach both the catchment area of Bologna and to attract tourists such as Rimini, Forlì airport must identify its local excellence. Henceforth, strategic insights have to be based on the territorial peculiarities as well as the suitable routes that may enable it to get into intense contact with commercial airports, such as for example those of Eastern Europe and the Balkans (to which European Union policies have posited their attention).

According to Mr. R. and his team, the new airport of Forlì would still consider the two traditional segments of passengers and cargo. Henceforth, the initial numbers of the business plan were based on

the historical data and past balances of passengers and cargo (measured by work load unit, WLU). This was an assumption of credibility and reliability. On the basis of past numbers the new management would have developed the new strategies of growth and the industrial plan. A broad definition of the customers in this stage was considered at the level of the traffic that would produce and the corresponding revenues. The business plan had to show the relationship between revenues and costs with a certain level of traffic of passengers and a certain amount of cargo (the split in percentage terms between the two was not considered). Consequently, it was not necessary to consider airlines companies because what is really interesting was the economic and financial sustainability of the business over the duration of the concession (another point explicated in the tender).

Henceforth, the management had the need to demonstrate how the proposed business model would be sustainable over time. In doing that, the considered key element was the involvement of local enterprises and territorial stakeholders in defining the airport development and strategies of growth: “you have to look at the future: you know that according to H2050 airports have to act in the aviation sector considering integration and without directly compete with similar airports located into a range of couples of hundred kilometres”, says Mr. R. According to the European directives on integration between different means of transportation and basing on the National Plan of Transports that described competition between airports, the management recognized that defining an agreement with the interest-holders would be a successful strategy for the entire development of the catchment area. In particular, the management also stressed the importance of endorsing the High School of Aviation as a potential future actor able to take care about the training and maintenance of the air transport industry. Business plan, plan of the investments, corporate strategies and all the other requirement documents for the tender were then designed according these preliminary assumptions: credibility of the projections, reliability of the numbers, integration with the local enterprises and in the local regional development.

The Group won the tender, thus becoming the long-term total concessionaire of Forlì airport. As the concessionaire, Mr. R. and his team passed from being “participants” as being in charge of managing the airport. Henceforth, they entered from a phase where business model was merely at its incubation phase to a phase where the business model needed to be practically conceived (generation phase) for then being finally implemented (implementation phase).

The generation phase, that is still the ongoing phase, is characterized by the fact that the concessionaire has to build the industrial plan.

According to the concessionaire the Forlì airport has to be seen as a gate linking two rooms: the local area and the foreign countries. Similarly to what happened in the incubation phase, in this phase customers are still passengers and cargo, but their role is better defined: at that time the airport will

take form, customers need to be engaged with the airport at a high level. The airport, in fact, wants to provide tailored services, designed on the basis of its customers' needs. In particular, the management highlighted the potentiality of developing an airport with a strong vocation on cargo (due to the wide number of enterprises present on that area): "Locally, you have very important companies that have international markets. You need to have attractive destinations (both incoming and out-coming) for both the passenger and the companies", says one of the managers.

For what concerns the linkages the management wants to build, the management is still considering many possible stakeholders due to the heterogeneity of individuals and companies. This heterogeneity is linked not only to their origin, whether national or international, but above all to the different scopes and objects. In this phase, the concessionaire is considering both commercial contracts and/or direct investments in the company equity thus deriving from both national and international stakeholders. Moreover, taking into consideration the European directives on integration of the different means of transport, at this stage the management is meeting also possible not-direct investors and complementary partners. Integration is the future and a smart management has to consider the public directives as part of basic assumptions of the business model; translated them into a real and effective corporate strategy is a priority. One of the managers says: "Last year we thought about integration and we said 'ok, we will think about that in the future'... We would never suspect it would be happened today". According to the management there are some important underling and basic assumptions on their business model (for example "integration") and during the preparation of the required documents for the public tender the management has taken into consideration these strategic factors. However, at that time, they were not aware about the timing of the operationalization of their assumption into a concrete action. Integration with the local stakeholder is now a pillar of the business model, but at the beginning the management perceived it as a distal future activity. One year later they realize the importance of that activity and the promptness to fulfill this goal.

In order to underline its natural vocation, another aptitude of Forlì airport could become the Faculty of Aerospace Engineering. Taking into consideration the natural vocation of the regional airports means focusing also to the internal skills of an organization. Forlì airport might become an excellence in training activities in aeronautical field, including research and development. The aeronautical pole can be promoted as a unique element of attractiveness for foreign students and researchers. The activities of the aeronautical pole of Forlì as a whole, recognized national and European level, should then guide the strategies of connection with airport locations where this valuable training sector and specialist is deficient or absent, such as for example the Balkans and Eastern Europe.

The concessionaire is refining its revenue model: it knows that soon it will have to consider a new customer (the airline companies) that would satisfy the request of the passengers and cargos selected,

and it knows that a source of revenue would be generated by extra-aviation activities, such as the shopping mall and the parking area.

As emerged from the previous description, the generation stage is still open: the management is analyzing all the factors described above. There are some alternative scenarios: the scenario the management will adopt, it will become the content of the third stage, the implementation stage.

#### *4.3 Business model as a manipulative device*

The analysis of the business model of Forlì airport shew that business model was used differently according to the audience it referred to (Doganova and Eyquem-Renault, 2009). As seen in the two phases, the potential concessionaire focused on different dimensions of the business model. Nonetheless, from the case study it also emerged that not only different dimensions were emphasized with respect to different phases (and consequently different audiences), but also that the business model was manipulated by different actors in the two different phases.

##### *4.3.1 Different dimensions in different phases*

In the first phase, that of incubation, the business model is encoded in a written document that would be presented to the local authorities that have to select among the many submitted after the public announcement. In this context, Mr. R. and his group of professionals exacerbated the links with territory. There is the 'idea' that the potential airport of Forlì (as thought by Mr. R. and his professionals) should be designed as stressing the local integration and the fact that it would not represent a threat for the other regional airports (as asked by National Plan of Transports). Hence, the stress is on satisfying the Local Entities requirements and the more general European guidelines. This is because in this phase we do not see references about the "monetization" in terms of financial revenues, but only in terms of "territorial" sustainability.

In the second phase -the generation- the business model changed. First of all, from being made up by "ideas", it began to be "planned": still, local integration remains important, but there was also the need to better emphasize the airport vocation. Then, it was to turn to look for financing. In this context, collaboration with other local entities became important. Whether, in the first phase, financing derived from European Union via the Local Entity's announcement, in the second phase investors became important. Investors may be international as well as national, both focusing on the financial sustainability of the business. However, the two segments perceived different threats for the financial sustainability of the business and hence needed to be assured about different aspects. First, national investors were biased since they were aware of the previous failure of Forlì airport. In order to overcome this state of mind, the team stressed how the new legislation assured somehow the future

viability of the new constituting airport. Then, the international investors feared not about the past experience of failure of Forlì airport, rather about the Italy image: Italy in fact is perceived as a very instable market, where laws change day after day, thus representing a threat for investors. The fact that Mr. R. is American counterbalanced the fear of international investors.

#### *4.3.2 Who manipulate what? Power roles shifts in business model evolution*

For what concerns the key actors involved in the business model innovation, in the first phase, we can distinguishing both the Local Entity (i.e. the Province) and the potential concessionaire, Mr. R.

For what concerns the Local Entity, Mrs. M. played a key role since she was the one who decided the 'audience' of the announcement. In fact, the announcement was made internationally public since the "smart" Mrs. M. decided to translate the announcement in English and to diffuse it at international level. This element was crucial in that, whether Mrs. M. had maintained the announcement national, the announcement would be constrained only at national level.

The main role in defining the business model was played by the potential concessionaire who orchestrated everything. Mr. R. was the one who saw the public announcement and decided to participate. In this phase, the American Mr. R. recognized the need to recur to local actors. This choice was led by three main reasons: the necessity to work with local professionals/consultants that really know the area and can help a foreign investor -such as Mr. R.-, the objective to create synergies with local stakeholders and local firms, the aim to develop a new business model in collaboration with different stakeholders (on the basis of National and European directives).

In the first phase Mr. R. decided to recur to local professionals and consultants. These people were selected via a snowball effect. Mr. R. knew his team would be heterogeneous in terms of competences, but linked via one common denominator: their engagement with territory. From this, he selected Mr. S., a retired aviation-expert, and some young consultants.

In the first phase, Mr. S. and the young consultants had a reactive role, in the sense that their role was limited to answering at Mr. R.'s requirements (that had to dealt with local entities' requirements). As we have seen, this role passed from being reactive, to being proactive in the second phase.

In the second phase we notice a shift in the power of who manipulates business model. First there was a power-relay from the local entity to the actual concessionaire. Second, Mr. R. gave different powers within his team, designating the future roles these people with play in phase 3 (that of implementation). In order to assign roles and powers, Mr. R. relied on two specific characteristics that were emerged during the incubation phase: trust and competences. Henceforth, Mr. S. and the young consultants represented the key leaders in this phase, having shown in the first phase their attachment to their territory, their transparency towards Mr. R. and their complementary competences. Moreover,



during the incubation phase, Mr. S. and the young consultants had the opportunity to meet each other and to work together, thus allowing the emergence of synergies (that would be at most planned only in the mind of Mr. R. in the first phase).

Table 1 summarizes all the elements previously described.

	IncubationPhase	Generation Phase
Customer identification	Passengers and Cargo. Airlines are not considered.	International and National Passengers and Cargo. Focus on cargo.
Customer engagement	Not disclosed.	Customized
Value chain and linkages	Local enterprises and territorial stakeholders.	Local and international enterprises and stakeholders
Monetization	Focus on economic and financial sustainability.	Airlines + extra-aviation (shopping mall and parking).
Manipulandum of BM	Mr. R. as the concessionaire	Mr. R. as the concessionaire + trusted people selected in the team
Audience of the BM	Local Entities	Investors
BM's dimensions emphasized	Value chain and linkages (Integration with the territory) Monetization (local sustainability)	Monetization (Financial revenues)

Table 12. Business model of Forlì airport

## 5. CONCLUSION

Business model innovation in the air transport industry has by far emphasized the role of new technologies as a driver of new business model as well as the role of regulatory environment as exogenous drivers for change. Although very well known cases, such as RyanAir, LAN Airlines and South-West airlines have been widely analyzed (Casadesus-Masanell and Ricart, 2010; Casadesus-Masanell and Tarzijàn, 2012; Graf, 2005), scant attention has been given so far to airports' business model innovation (Gillen and Lall 2002), especially when following a regulatory change.

This paper fills this gap via providing the case of Forlì airport. This is an exemplary case of a business model innovation that has followed due to a change in the regulation environment. Following

the 2014 National Plan of Transport, a new ownership/governance structure, that of long term concession, has been developed and this has enabled a new business model previously unconceivable.

The contributions to extant literature are twofold. On the one hand, the paper expands Gillen (2011)'s taxonomy on ownership and governance structure, via introducing the long term concession defined as the concession of the comprehensive management to a private company for 30 years. On the other hand, it provides empirical evidence on the evolution of the business model of an airport. The case describes, in fact, how business model evolves between the incubation and the generation phase, via providing a detailed description of the business model dimensions changes (Baden-Fuller and Haeffliger, 2013; Baden-Fuller and Mangematin, 2013; Casprini, 2015). Moreover, it also shows how different elements of the business model have been emphasized in different phases with respect to different audiences (Doganova and Eyquem-Renault, 2009).

Due to the peculiarity of the context, that is that of an airport in its early years stage, the described case provides interesting insights for both, managers and researchers. First of all, regulation may represent a boost for innovating a highly competitive sector, that of air transport industry, whose dynamics are usually dominated by airlines and that, up to now, has mainly seen innovation as deriving from technology. Future research might investigate multiple cases in Italy in order to understand how business models may be innovated under the long term concession.

Second, regulation has introduced a new scenario that seems to be characterized by a win-win strategy according to which on the one side, public policies can incentive societal and financial development and, on the other side, private actors can invest and establish their business through the infrastructures. Despite the financial crisis that affect Europe since 2007, the air transport industry is still growing and requires alignment between national and international levels in terms of infrastructures, standards in conformity to EU requirements, connections, networks, etc. In the next years, researchers would be able to see whether the hypothesized win-win strategy would have been realized or not.

Third, the case study sheds light on how, starting from regulation, an opportunity for regional airports that could develop excellence niches in unexplored market (strictly integrated with the vocation of the local area) may arise. In particular, the continued growth of integrated transport modes appears to be critical for economic development at the regional and national level, at least in the Italian context.

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## THE ROLE OF ACADEMIC ENTREPRENEURSHIP IN THE COMMERCIALIZATION OF R&D OUTCOMES IN POLAND

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### ABSTRACT

The paper aims to examine determinants of R&D activity conducted by the non-financial Polish private limited liability and not-listed joint-stock companies, with the special focus on the academic entrepreneurship (firms whose management and/or supervisory board consists of at least one person with PhD or professor degree). The study intends to identify factors, which determine decisions made by management concerning commercialization of the results of the research and development activity, measured by the share of the capitalized expenditures on R&D in the fixed assets, based on literature review, the spatial statistics of patents and the probit panel analysis. Among factors influencing the R&D costs capitalized in the balance sheet we analyze firm size, ability to self-financing with the use of cash flow from operational activity, cash holdings, grants, availability of financing sources (bank loans, corporate bonds and share issue) and leverage. We also take into account companies' growth opportunities and operational risk, that as we suppose, play a crucial role in the academic entrepreneurship in comparison to more stable companies' managed by persons outside of the academia. The data used for analysis contains 23,667 non-public non-financial Polish limited liability and joint-stock companies for the period of 2003-2013 (235,046 firm-year observations). Findings of our research show that the effects of commercialization of the R&D activity's outcomes positively depend on grants, the ability to self-financing, firm size, while are negatively influenced by growth opportunity and operational risk, especially in the case of academic entrepreneurship.

**Keywords:** *R&D, expenses on R&D activity, commercialization, academic entrepreneurship, grants, finance sources.*

## INTRODUCTION

Despite the high intellectual potential of academia in innovative sectors, Polish universities concentrate mainly on fundamental research. They lack effective commercialization tools for R&D outcomes. The existing technology transfer gap between basic research (conducted on universities and institutes mainly in the Lodz, the Lesser Poland, the Mazovian and the Lower Silesian voivodeships) and the commercialization of the results can be closed by companies with academics in management or/and supervisory boards which manage the technology transfer from universities and research institutes to industrial companies. However, this process requires favourable regulations, successful practices and considerable expenses on R&D work in form of grants, subsidies, but also funds gained by share issue on stock exchange. Debt financing of the commercialization of R&D outcomes is complicated with the risk of failure. Besides finance sources, to survive and grow, as well as to continue their R&D activity, scientists setting up companies need markets interested in their value proposition to increase sale and raise cash flow from operations and limit operational risk linked to the R&D activity.

In this paper we try to explore the determinants of corporate decision to commercialize the results of research and development activity (measured by the level of expenditures on development works - results of the R&D activity - capitalized in the balance sheet), with particular emphasis on the role of scientists in the management or supervisory of the company. We aim to compare determinants of the level of expenses on R&D activity between academic enterprises (managed and/or supervised by academics), and all private companies managed also by people from the outside of academic environment, based on the probit panel data analysis. Our analysis covers several aspects, including impact of researchers (doctors and professors) in management or/and supervisory board, operational risk, growth opportunities, research grants and subsidies and access to financing both internal (cash flow from operational activity, cash holdings) and external (debt including bank loans and borrowings, corporate bonds and share issue), mentioned in different streams of literature. We would also recognize an impact of patents and a localization close to academic centers and scientific institutes on R&D activity conducted by scientists and commercialization of the R&D outcomes through establishing a company as an example of academic entrepreneurship.

The rest of the paper is organized as follows. In the first part, we provide a literature review referring to the main points of our analysis. In the next section, we present the spatial statistics' analysis of patents registered in Poland by four types of entities. Then, we state our four hypotheses, describe the research sample and define variables for panel probit analysis. The main section of our study contains the panel probit analysis and the interpretation of our results. Finally, we provide conclusions, a short discussion and suggestions for possible directions of further research.

## DETERMINANTS OF R&D ACTIVITY DEVELOPMENT - A LITERATURE REVIEW

Schumpeter (1950) argues that large companies have the resources that they can use for inventing new technologies. Hamberg (1964) affirms that the scale of research and development activity, as well as the number of workers employed in R&D department grows along with the size of company (measured by employment level). In majority of industries, the revenue growth rate of 1% was accompanied with over-proportional increase in expenditures on basic research i.e. 1.65% (Mansfield, 1981). However, Scherer (1965) points out that this relation is under-proportional. In contrast, results of research provided by Howe and McFetridge (1976) indicate that the relation between the *firm size* and expenditures on R&D activity is insignificant for mechanical industry, while in chemical industry for foreign firms it is different than for domestic enterprises (significant positive link).

Larger companies tend to show higher innovative activity (Wilder and Stansell, 1974; Cohen and Klepper, 1996; Canto and Gonzalez, 1999; Cho, Lee, Kang and Kwon, 1999; Gustavsson and Poldahl, 2003; Lee and Hwang, 2003), especially in high-tech industry (Bhattacharya and Bloch, 2004). Hyeog and Tomohiki (2013) based on results from the study of 13,000 Japan companies from industrial sector, and Mansfeld (1981) based on the sample of about 100 companies from different sectors, prove that the relation between the size of an enterprise and the expenditures on R&D takes shape of reverse “U” letter. It means that expenditures initially increase along with the size of the company, and at some point they start to fall down. In the case of studies on new products and processes, it is noticeable that the relation between the size of an enterprise and expenditures on R&D is under-proportional – 1% to 0.78%. The results of Cohen, Levin and Mowery (1987) research indicate, that the type of industry is more important for carrying out R&D activity than the size of an enterprise. Acs and Audretsch (1987) confirm innovative advantage of larger companies over smaller ones among capital-intensive sectors and in strongly concentrated markets, using the number of registered innovations as a measure. However, among less capital-intensive sectors and in less concentrated markets smaller firms tend to display higher innovation level.

In the companies performing worse than expected, the surplus of their resources increases the expenditure level on R&D activity. While in the companies performing better, the surplus of their resources has to be much higher for it to have positive impact on R&D expenditures (Ru-Chen and Miller, 2007). Malmberg (2008) shows positive influence of expected return on R&D expenditures, based on the sample of Swedish pharmacist companies in the period of 1960 – 1990. Ali-Yrkkö (2004) analyzing Finnish enterprises in high-tech industry, proves that the profit from a previous year has positive influence on the level of R&D expenditures in the given year. Branch (1974) and Roucan-Kane,

Ubilava and Xu (2007) observe positive relation between companies' profit and R&D expenditures. Howe and McFetridge (1976), Bhattacharya and Bloch (2004), Manganelli (2010) has not proven significant relation between profitability and R&D expenditures. Chen and Miller (2007) show that companies tend to spend less on R&D, when their profits exceed industry's average.

Manganelli (2010) proves that the lack of liquidity reduces the level of expenditures on R&D. Himmelberg and Petersen (1994) and Bloch (2005) indicate that **cash flows** have significant impact on R&D expenditures, Malmberg (2008) confirms only the impact of 2-year lagged cash flow, while Bhagat and Welch (1995) prove the negative impact of cash flows on R&D expenditures among companies from USA. Bond, Harhoff and Van Reenen (2005) show that operational cash flows have a positive impact on probability of R&D investment existence among British companies, while Mulkay, Hall and Mairesse (2001) receive the same results for American companies. Brown, Fazzari and Petersen (2009) observe in their results that there is a considerable impact of cash flows on R&D expenditures in the case of young American companies and a small impact in the case of large companies from high-tech sector. A positive impact of cash flows on R&D expenditures has been observed by Cleary (1999) for USA, Guariglia (2008) for United Kingdom and Grabowski i Vernon (2000) for 11 major drug firms. Brown and Peterson (2011) show positive relation between cash flows and R&D expenditures in a given year, where the biggest one is for young companies in the period of 1970-1981, while cash flows from previous year have negative impact on R&D expenditures. Armour and Teece (1981) observe positive impact of cash flows lagged by 1 year, 2 years and 3 years on R&D expenditures, while analyzing American companies from energy industry. The strongest impact is observed in case of cash flows lagged by 2 years. Hyeog and Tomohiko (2013) prove that enterprises' internal funds (savings) have positive impact on research and development expenditures. However, dividends' payment reduces cash holdings. Lee and Hwang (2003) prove that companies which pay higher dividends tend to lower their R&D expenditures. In contrast, due to results of Switzer (1984), Fazzari and Athey (1987), Cho *et al.* (1999) studies, dividends' payment has a positive influence on research and development expenditures.

Cumming and MacIntosh (2000) prove that the availability of **patent protection** leads to higher R&D expenditures. Lee and Hwang (2003) and Guariglia (2008) prove that the higher the **growth opportunities**, the higher the expenditures on R&D investment. On the other hand, results received by Brown and Peterson (2011) are not explicit, but they indicate the negative relation between growth opportunities and R&D expenditures in the period of 1970-1981, especially for young companies; positive relation in the period of 1982-1993, either for young and mature companies, while in the period

of 1994-2006 there is a negative relation in the case of young companies and positive relation in the case of mature companies.

Howe and McFetridge (1976) show that entities with domestic capital spend more on R&D than they obtain **grants**, contrarily to companies with foreign capital. In the case of German enterprises, Almus and Czarnitzki (2003) prove that R&D expenditures are, on average, 4% higher than the value of their grants obtained. Obtained grants encourage companies to increase their R&D expenditures (Carboni, 2011), in ICT sector (Lee and Hwang, 2003) and industrial sector (Becker and Pain, 2003). Results of Ali-Yrkkö (2004) study are consistent with findings mentioned above, as grants from previous year, as well as grants from a given year have positive impact on R&D expenditures in a given year. Dugueta (2004), as well as Czarnitzki and Hussinger (2004) confirm that subsidies strengthen the private expenditures on R&D and that the crowding-out effect does not take place. Ali-Yrkkö (2004) stresses that public R&D funding can be seen as lowering the private cost of an R&D project and making an unprofitable project profitable. If any R&D infrastructure is bought with an R&D subsidy, the fixed costs of other R&D projects are lowered. The know-how or knowledge developed in subsidized projects diffuse to other projects, improving their probability of success.

Enterprises with higher **debt** to equity ratio spend less on R&D (Cumming and MacIntosh, 2000). Bhagat and Welch (1995) indicate that debt ratio is negatively related with R&D expenditures among American companies, while in the case of Japan companies they observe positive relation. However, in the case of Canadian, British and European companies there is no relation between debt ratio and investment expenditures observed. The results of Bond, Harhoff and Van Reenen (2005) study show that high debt to equity ratio holds down enterprises, which are not investing in R&D, from making these kind of decisions in the next period. Brown and Petersen (2011) prove that issuing debt securities has positive impact on R&D expenditures, while the issue of debt securities in the previous year has negative impact.

Based on the results of a survey conducted in Poland in February/March 2015 Białek-Jaworska, Gabryelczyk and Pugacewicz (2015) show that companies using R&D in their business appreciate the significance of the founders' achievements (a "**Star**" **scientist** (Zucker and Darby, 1998), the board's managerial skills (Colombo and Grilli, 2005), **patents** (Shane, 2004; Niosi, 2003; Penin, 2005) and information technology. Among factors important for R&D cost reduction, they identify the business location and the proximity of university centers and the access to the science and research infrastructure (Zucker and Darby, 1998). Accessibility to sources of financing R&D activities is crucial (Lerner *et al.*, 2003; Brown *et al.*, 2009; Gorodnichenko and Schnitzer, 2010; Aghion *et al.*, 2012) the more the R&D project risks depend on the effectiveness in applying for research grants (Almus and



Czarnitzki, 2003; Becker and Pain, 2003; Lee and Hwang, 2003; Klette and Moen, 2012). **Scientists' participation in the Supervisory Board** may be helpful in associating specialist knowledge with the needs of companies' looking for solutions to the products/services developed themselves. The co-operation with partners may also help monetize those of the R&D results that have not been used internally (Białek-Jaworska, Gabryelczyk and Pugacewicz, 2015).

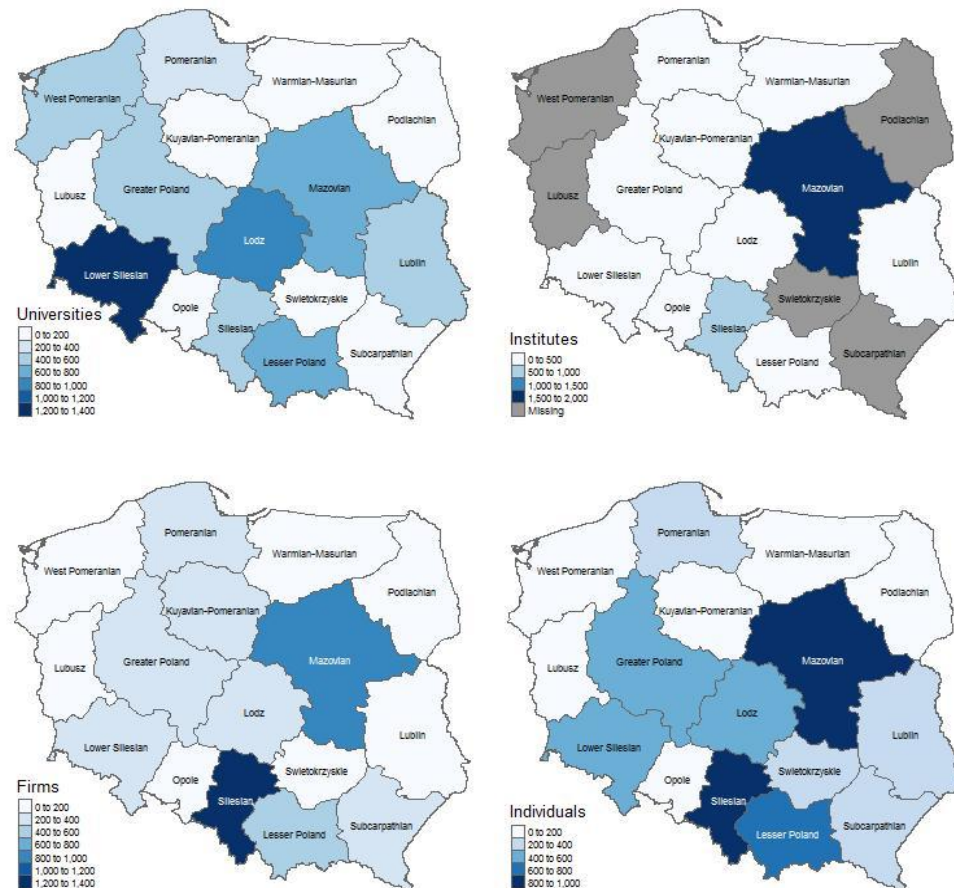


Figure 1. *Total number of patents registered in Polish Patent Office in years 2008-2015*

## SPATIAL STATISTICS' ANALYSIS OF PATENTS IN POLAND

We observe the high diversity of research activity in Poland. The spatial statistics of patents sheds some light on structural differences between Polish regions (Fig. 1).

Figure 1 presents the total number of patents based on the data from the Polish Patent Office separately for universities, institutes, firms and individuals. The highest number of patents is registered by universities of the Lower Silesian voivodeship, which is due to active cooperation by academic centers with international KGHM concern (mostly with its affiliate limited liability company KGHM CUPRUM – R&D Centre). The other important entity, maybe even more impactful than KGHM, in the Lower

Silesian voivodeship is limited liability company EIT+ Wrocław Research Centre. It is the first RTO (Research and Technology Organization) in Poland, focused on the development of innovations, new technologies and studies for the needs of the modern industry. Their activity involves, inter alia, 59 research projects, 48 patent applications (Polish and PCT) and 14 spin-off companies created. The other most active academic centers in Poland, in terms of registering patents, are Łódź (with the third highest average number of patents per university – dominant role of Łódź University of Technology, but with relatively low number of universities registering patents and low competition among research institutes), Mazovian and Lesser Poland voivodeships (dominant role of AGH University of Science and Technology). In Mazovian voivodeship, the biggest role in registering patents is played by universities (mainly Warsaw University of Technology), research institutes (like Industrial Research Institute for Automation and Measurements, Industrial Chemistry Research Institute or Tele & Radio Research Institute) and individuals (mainly scientists collecting points for registered patents for the needs of interim evaluations of academic staff). Often, patents are the basis for the settlement of projects co-financed by grants, which positively influences the activity among research institutes. Voivodeships with relatively higher number of scientists being more active in registering patents are, besides Mazovian voivodeship, Silesian, Lesser Poland and Greater Poland. However, in the case of business sector the highest number of patents is registered by companies placed in Silesian voivodeship. It may be due to high R&D activity by industrial and mining-and-steel sectors, but also due to the lower activity of universities and research institutes. In Silesian voivodeship patents are registered rather by individuals, similarly to Lesser Poland (that is a seat for Jagiellonian Life Science cluster). It indicates ineffective cooperation between science and business in the field of R&D activity strengthened with registered patents. It seems that in Mazovian voivodeship (with the capital of Poland and headquarter of the National Centre for Research and Development) patents are the main basis for settlement of research grants obtained by universities and research centers and for the researchers' assessment and promotions. On the contrary, in Silesian voivodeship, the most industrialized Polish region, patents are registered mainly by individuals (including scientists from universities of technology and medical universities) and companies, not by academic or research centers. High industrialization enhances the knowledge and innovations' flow to the business sector. Similarly, we can see that low competition among research institutes in terms of obtaining research grants and registering patents favors the development of registering patents based on the outcomes of R&D activity among companies. In the analyzed sample, the highest number of companies commercializing R&D outcomes (capitalizing R&D expenditures in assets) are placed in Mazovian, Silesian, Lower Silesian and Greater Poland voivodeships (see Figure 2).

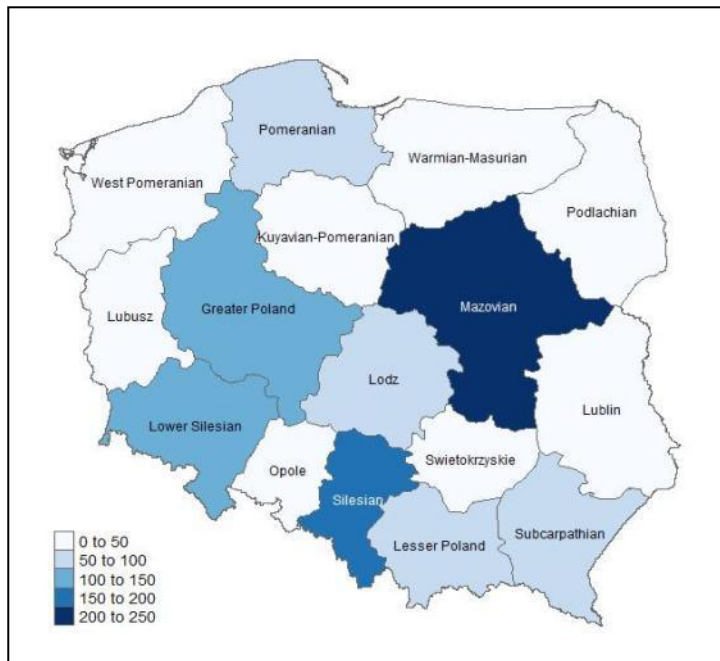


Figure 2. The number of companies in the sample

## HYPOTHESES

Based on the literature review we stated the following hypotheses: **H1:** The ability to self-financing, measured by relation of *cash flow from operational activity to assets*, positively influences the R&D expenses that are capitalized in the balance sheet, especially in the case of academic entrepreneurship (firms managed by scientists). **H2:** Larger companies spend more money on R&D outcomes recorded in the balance sheet. Additionally, we suppose that **H3:** Companies' growth opportunities negatively influence academic entrepreneurship' expenses on the R&D activity. **H4:** Higher operational risk limits expenditure on R&D.

## RESEARCH SAMPLE AND DEFINITIONS OF VARIABLES

In order to identify what determines decisions made by management concerning commercialization of the results from research and development activity measured by the level of expenses on development works recognized as an asset in the balance sheet, we use data retrieved from financial statements of private nonfinancial capital companies. The data base used for analysis contains 22,633 non-public limited liability and joint-stock companies' financial statements for the period of 2003-2013 (108,773 firm-year observations). Table 1 presents a complete description of variables used in the empirical

analysis. Before a probit panel analysis, the descriptive statistics of variables has been determined and the correlation between explanatory variables has been estimated (they are not reported in this paper).

Variable	Definition of variable
rdexpen	development costs capitalized in the balance sheet (as percentage of assets)
AM academics in management board	dummy variable that takes the value of 1 if in the board sit scientists (variable determined on the basis of linkage of database of the National Court Register and database of scientists), and 0 otherwise
AS academics in supervisory board	dummy variable that takes the value of 1 if in the supervisory board sit scientists (determined on the basis of linkage of database of the National Court Register and database of scientists), and 0 otherwise
cash flow/assets	self-financing as percentage of assets = cash flow from operations / assets
cash holdings	corporate cash resources measured by the share of cash and short-term financial assets in assets
debt	debt = long-term liabilities and short-term liabilities resulted from loans and borrowings, issue of debt securities and other financial liabilities to other entities / total assets
leverage	total long-term liabilities and total short-term liabilities / (total assets - capital from revaluation)
d6	leverage with trade credit = total liabilities without payables to related parties, excluding liabilities for taxes, wages and to employees and prepayments for delivery / total assets
d6_2	leverage without trade credit = total liabilities without trade credit, excluding liabilities for taxes, wages and to employees and prepayments for delivery / total assets
loans	bank and other loans borrowed, based on cash flow statement or change of liabilities
size_income	company size measured by the natural logarithm of sales volume
growth	growth opportunities, measured by the growth rate of sales revenue year to year
risk_oper	threat of operational risk = standard deviation of cash flow from operations for the last three years of cash flow from operating activities / total assets
share_issue_flag	dummy variable that takes the value of 1 if a company issues shares, i.e. if share capital in t year - share capital in t-1 year >0, and 0 otherwise
grants_profit&loss	grants recognized in the income statement
grants_scaled	grants recognized in the income statement / total assets
grants_balance_share	subsidies for fixed assets and intangible assets recognized in the liabilities in the balance sheet as value of long-term other deferred income / total assets

Table 1. *Definitions of variables used in the probit panel analysis on the total sample*

## RESULTS

In our study we used functional form of the model proposed by Brown, Fazzari and Petersen (2009) with the lagged spending on R&D variable and squared lagged spending on R&D. Due to the low level of expenditure on R&D (developmental works) capitalized in the balance sheet, we decided to scale it by fixed assets. However, a high number of zero observations (mean 0.0024926) resulted in our choice of estimation methods - panel probit analysis. The coefficient of the lagged variable of expenditure on R&D is positive, and the lagged variable expenditure on R&D raised to the square is negative, which is

consistent with the results of Brown, Fazzari and Petersen (2009), Brown and Petersen (2011) and Nehrebecka and Bialek-Jaworska (2015). The results indicate, that if the company pursued development in a given year, it is likely to have decided to continue spending on R&D in the following periods (the *rdexpen\_lag* and *rdexpen\_lag2* variables). The presence of scientists in the board of directors is typical for the company that recognizes higher expenditure on commercialized results of R&D activity in the form of completed developmental works (in the balance sheet) (Table 2), also in companies managed by scientists (Table 3). On the contrary, the companies managed by scientists show lower expenditure on R&D, but the variable is significant only in the model for the total sample. The positive impact of cash flow from operational activity / assets on expenditures on R&D capitalized in the balance sheet in the development enterprises (that conduct R&D activity) and in those managed by scientists indicates, that a higher capacity for self-financing supports the development of R&D activity. This indicates that there is no basis to reject the hypothesis H1. The results are consistent with the conclusions of Himmelberg and Petersen (1994), Grabowski and Vernon (2000), Mulkay, Hall and Mairesse (2001), Bloch (2005), Bond, Harhoff and Van Reenen (2005), Guariglia (2008) and Brown and Peterson (2011). The decrease in corporate cash holdings determines significant expenditures on R&D, which results from the financing this business by cash resources because of the accompanying high risk. Similar conclusions were drawn by Brown, Martinsson and Petersen (2012). Larger enterprises face higher expenditures on research and development, that is in accordance with H2. Higher spending on R&D is accompanied by lower financial leverage and the *d6* leverage variable, including a non-commercial short-term liabilities to related parties and trade credit received from other entities. Companies conducting R&D activity increase spending on R&D by debt financing, while firms supervised by scientists show lower debt due to loans and borrowings, issue of corporate bonds and other financial liabilities. This may be due to the lower use of trade credit (or faster repayment it with use of subsidies received) by enterprises conducting R&D activity. This effect is stronger (the higher coefficients at the *d6* in absolute terms) in academic enterprises AM. Academic enterprises (AM and AS) that have lower growth opportunities tend to increase spending on R&D (Table 3). It may be due to the instability of revenue from sales and problems with sales channels. This indicates that there is no basis to reject the hypothesis H3. In other models for the total sample and development companies the *growth* variable was not significant (Table 2). The reason may also be a lack of experience in running a business - the commercialization of research results without the proper identification of customer segments or/and building relationships with customers. The results indicate a strong positive relationship between effects of the R&D activity conducted by non-academic companies and enterprises supervised by scientists (AS) and obtaining grants both recognized in the income statement, as well as recognized in the balance sheet (for the construction or purchase of fixed or intangible assets). Grants recognized in other operating income

may also be a part of grants recognized in the balance statement to be settled parallel to the depreciation of fixed or intangible assets financed with the grants. In the case of companies managed by scientists (AM), grants for infrastructure are the only important ones.

Random-effects probit regression $u_i \sim \text{Gaussian}$ Integration method: mvaghermite Integration points 12						
Number of obs	108773	104485	108773	4914	4695	4914
No. of groups	22633	22535	22633	844	844	844
	total sample	total sample	total sample	R&D	R&D	R&D
rdexpen_lag	18.19354** (0.7986364)	19.75474*** (0.7794952)	18.18354*** (0.7988704)	11.95095*** (0.6175832)	12.05159*** (0.632064)	11.88916*** (0.6170756)
rdexpen_lag2	-17.10198*** (0.980384)	-18.49157*** (0.9571193)	-17.08394*** (0.9807475)	-11.43839*** (0.7622556)	-11.51162*** (0.7767517)	-11.38833*** (0.7621043)
cash holdings	-1.069525*** (0.2083763)	-1.037283*** (0.1894127)	-0.996523*** (0.2068721)	-1.187629*** (0.2217574)	-1.222539*** (0.228504)	-1.125605*** (0.2199663)
debt	0.0886248 (0.1756662)	0.1305712 (0.1612097)		0.2815594## (0.1790743)	0.3551941* (0.1937837)	
leverage			-0.1425088** (0.0743994)			-0.202413*** (0.0707838)
d6	-0.2954501** (0.1270437)	-0.370535*** (0.1180741)		-0.338853*** (0.113222)	-0.384625*** (0.1212351)	
d6_2			-0.1300332 (0.1317875)			
loans		-2.48e-11 (1.24e-09)			-4.27e-10 (1.34e-09)	
size_income	0.3596048*** (0.0218649)	0.300819*** (0.0189308)	0.3634496*** (0.0217632)	0.089588*** (0.0203237)	0.087976*** (0.0208873)	0.0954795*** (0.0201905)
growth	-0.0003968 (0.0013173)	-0.0001508 (0.0006165)	-0.0004592 (0.0014338)	0.0033061 (0.0037997)	0.0094348## (0.0059496)	0.0023798 (0.0037549)
risk_oper	-0.0974692 (0.0903531)	-0.2368631** (0.1094707)	-0.0595782 (0.0877339)	-0.1057866 (0.093831)	-0.324339*** (0.1261819)	-0.0646552 (0.0931064)
share_issue_flag	0.1686096** (0.0759413)	0.1717954** (0.0708277)	0.1661339** (0.0759076)	0.0947068 (0.0811439)	0.1132216# (0.0837138)	0.0874862 (0.081162)
cash flow/assets	0.0357489 (0.02891)	0.0779219** (0.0346263)	0.0238019 (0.0281521)	0.486409*** (0.1048095)	0.521779*** (0.1108794)	0.4518303*** (0.1058919)
cash flow/assets_lag	-0.0074355 (0.0142416)	-0.0068412 (0.0202526)	-0.0063202 (0.0127536)	-0.0515467 (0.1038583)	-0.0354718 (0.1078828)	-0.0723432 (0.1037493)
grants_balance_share			2.165072*** (0.294447)			1.756907*** (0.3955512)
grants_profit & loss	3.64e-09* (2.28e-09)			4.50e-09## (3.16e-09)		
grants_scaled		0.11945# (0.0941878)			0.4823957# (0.380649)	
academics in management	-0.1765737* (0.1097812)	-0.1607112* (0.088404)	-0.1837284* (0.1095145)	-0.1004343 (0.1057698)	-0.1158217 (0.1076495)	-0.1204631 (0.1055591)
academics in supervisory board	0.2824853** (0.1352922)	0.2216321** (0.1030758)	0.2773786** (0.1346142)	0.2075302* (0.1245624)	0.2003034## (0.126734)	0.2008585* (0.1241404)
_cons	-10.80692*** (0.389866)	-8.916393*** (0.3534914)	-10.87337*** (0.3924994)	-2.005646*** (0.3534997)	-1.95454*** (0.3650992)	-2.129342*** (0.3518071)
/lnsig2u	1.48067 (0.0567317)	0.9489475 (0.0513203)	1.454192 (0.0594175)	-0.4032212 (0.1067549)	-0.3879682 (0.1084823)	-0.4162071 (0.1070509)
sigma_u	2.096637 (0.0594729)	1.607168 (0.0412401)	2.069063 (0.0614692)	0.8174132 (0.0436314)	0.823671 (0.0446769)	0.8121229 (0.0434692)
rho	0.8146737 (0.0085654)	0.7209035 (0.0103257)	0.8106427 (0.0091206)	0.4005387 (0.0256326)	0.4042065 (0.0261251)	0.3974247 (0.0256364)

Wald chi2(10)	1017.10***	1215.84***	1062.48***	518.04***	507.62***	531.64***
Log likelihood	-4490.1876	-4320.0259	-4468.3766	-2482.2073	-2365.9792	-2473.1483
Likelihood-ratio test	3063.11***	2846.39***	3034.45***	408.15***	388.77***	400.73***

# Significant at 20%, ## Significant at 15%, \* Significant at 10%, \*\* Significant at 5%, \*\*\* Significant at 1%.

Table 2. Results of the probit panel models on determinants of expenses for R&D activity

Random-effects probit regression u_i ~ Gaussian Integration method: mvaghermite Integration points 12					
Number of obs	752	722	752	11641	8622
Number of groups	127	127	127	1551	1509
	AM	AM	AM	AS	AS
rdexpen_lag	11.27915*** (1.709694)	11.62281*** (1.767834)	11.56674*** (1.718553)	24.99608*** (2.257264)	25.11896*** (2.589025)
rdexpen_lag2	-10.58559*** (2.384983)	-10.9649*** (2.49818)	-11.12742*** (2.410267)	-26.38818*** (3.103604)	-26.61855*** (3.433762)
cash holdings	-1.277519* (0.7145766)	-1.535583** (0.7674546)	-1.174424* (0.7077751)	-0.5465277# (0.4924709)	-1.472927** (0.6770182)
debt	0.3637095 (0.6592295)	0.443441 (0.7087919)		-0.9841246** (0.4221325)	
leverage			-0.2681538 (0.398006)		-1.257212*** (0.3923729)
d6	-0.6486608# (0.5154639)	-1.004731* (0.5585579)			
d6_2			-0.167813 (0.5561814)		
loans		8.26e-09## (5.21e-09)			
size_income	0.1851985*** (0.0610668)	0.170236*** (0.0625476)	0.182735*** (0.0590715)	0.2019251*** (0.0523641)	0.2540088*** (0.0656851)
growth	-0.4336011** (0.1882111)	-0.4687474** (0.1999728)	-0.446376** (0.1886668)	-0.1474977 (0.1289214)	-0.467788** (0.1867236)
risk_oper	-0.3982512# (0.3117535)	-0.4298525# (0.3472825)	-0.341625 (0.3195764)	-0.4975154## (0.3441058)	-0.0656751 (0.2944487)
share_issue_flag	0.3288296## (0.222785)	0.328722# (0.236667)	0.2985416# (0.2244337)	0.0553652 (0.1715478)	0.1274823 (0.2157372)
cash flow/assets	0.7763417** (0.3211216)	0.7394693** (0.380144)	0.7073781** (0.3255995)		0.2437536 (0.2105594)
cash flow/assets_lag	0.3723757 (0.306201)	0.3515127 (0.3226206)	0.3410043 (0.2985206)		-0.0797237 (0.2381029)
grants_balance_share			1.927614** (0.8861917)		1.78256* (1.045306)
grants_pl	-4.26e-08 (5.52e-08)			6.67e-08* (3.73e-08)	
grants_scaled		0.4829646 (1.664646)			
academics	in 0.6053793** (0.3103427)	0.6914964** (0.3216716)	0.621634** (0.3033308)		
supervisory board					
_cons	-3.207634*** (1.029999)	-2.845238*** (1.055293)	-3.252109*** (1.004679)	-6.953558*** (0.9398113)	-7.079625*** (1.263045)
/lnsig2u	-0.0780601 (0.2855016)	-0.0075139 (0.2890054)	-0.1598854 (0.2884712)	0.9539542 (0.1368523)	0.9459856 (0.2937384)
sigma_u	0.9617218 (0.1372866)	0.9962501 (0.1439608)	0.9231692 (0.1331539)	1.611197 (0.110248)	1.60479 (0.2356942)
rho	0.4804949 (0.0712668)	0.4981215 (0.0722503)	0.4601136 (0.0716589)	0.7219097 (0.0274739)	0.7203071 (0.0591779)

Wald chi2(10)	89.88***	89.78***	94.21***	163.11***	139.49***
Log likelihood	-340.33724	-321.56676	-338.44578	-604.94906	-468.08594
Likelihood-ratio test	67.98***	67.29***	63.36***	465.21***	269.29***

# Significant at 20%, ## Significant at 15%, \* Significant at 10%, \*\* Significant at 5%, \*\*\* Significant at 1%.

Table 3. *Results of the probit panel models on determinants of expenses for R&D activity*

Higher spending on R&D is accompanied by a decision to issue shares or increasing the share capital in the limited liabilities company (Table 2 - total sample and Table 3 - AM), especially in companies managed by scientists. This indicates the importance of the stock exchange (the *share\_issue\_flag* variable) in financing risky and capital-intensive R&D activity. Białek-Jaworska and Gabryelczyk (2015) indicate the importance of the funding by share issue on the NewConnect (the alternative market of the Warsaw Stock Exchange), especially for biotech start-ups R&D activity. Higher operational risk limits expenditure on R&D activity (Table 2), according to the assumptions formulated in the hypothesis H4. However, in the case of academic entrepreneurship the *risk\_oper* variable's effect is less significant (15% in the AS firms and 20% in the AM firms) (Table 3). This may be due to the relatively higher operational risk related to the R&D activity conducted by young, small and unstable academic enterprises.

## CONCLUSIONS, DISCUSSION AND DIRECTIONS OF FUTURE RESEARCH

Due to our study, we found that the effects of commercialization of the R&D activity's outcomes positively depend on the ability to self-financing (H1). The relationship between cash flow and spending on the R&D activity was confirmed by Bloch (2005), Bond, Harhoff and Van Reenen (2005), Guariglia (2008), as well as Brown and Peterson (2011). Larger companies spend more money on R&D outcomes recorded in the balance sheet (H2). Similar findings were received by Acs and Audretsch (1987), Gustavsson and Poldahl (2003), Lee and Hwang (2003) and Bhattacharya and Bloch (2004). Important sources of financing R&D activities are corporate cash holdings (also pointed by Hyeog and Tomohiko, 2013), debt from loans and borrowings, issue of corporate bonds (Brown and Petersen, 2011) and other financial liabilities (except for enterprises supervised by scientists), grants for research and infrastructure (in accordance with Carboni (2011) and Ali-Yrkkö (2004)), the proceeds of the share issue (especially in academic enterprises AM). In the case of academic entrepreneurship, managed by scientists, only subsidies for tangible and/or intangible assets (R&D outcomes) play a significant role. Academic entrepreneurship (with scientists in the management board and/or the board of directors) with lower growth opportunities increase spending on R&D related to the commercialization of research outcomes (H3). Probably this is due to their lower experience in conducting business activities and the commercialization of R&D results, lack of formulating proposals for the identified customer segments or lack of building relations with customers. Brown and Peterson (2011) observed



that this relationship was negative mainly for young firms. Additionally, based on our findings positively verifying the H4, it should be emphasized that the higher operational risk limits expenditure on the commercialization of R&D activities. Future research could be concentrated on an inclusion of the impact of patents and cooperation with universities in research projects financed by research grants. However, extension of the research requires linking the database of patents gained from the Polish Patent Office with data retrieved from financial statements of private nonfinancial companies as well as collected data of scientific alliances and partnerships in research project realization.

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## REGULATION ANALYSIS OF HIGHER EDUCATION COSTS IN POLAND

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### ABSTRACT

Since 2013 public and private universities in Poland have been statutorily obliged to record the costs of educational activity for the full-time studies and the part-time studies separately, even though the division into full-time and part-time studies was introduced in 2005. Due to the new amendment, financial flows are divided into categories with respect to their purpose, it is forbidden to finance part-time studies' by subsidies, but it is not pointed out that universities have certainly to conduct the subsidized activity cost account. This engenders the need to expand the knowledge about the sources of financing costs of higher education. In order to investigate underfunding of costs of education in terms of type of ownership, (educational) profile and size of a university, this article aims to apply in practice an author's methodology for analysis of the sources of financing higher education costs. This methodology contains an assessment of adequacy of the cost-intensity of studies, used by Ministry of Science and Higher Education, as well as a Least Squares estimation of determinants of financing the higher education costs level by grants from the state budget and fees charged for educational services with characteristics of education processes taken into account. Data for this study is based on results of interviews, expert opinions and the database purchased from the Polish Central Statistical Office as part of systemic project implemented by Educational Research Institute named "*Research of education quality and effectiveness and institutionalization of research base*", co-financed by European Union under European Social Fund.

**Keywords:** *higher education costs, subsidies, Poland, full-time studies, part-time studies*

### INTRODUCTION

The purpose of this article is to present a practical application of an original methodology for analyzing higher education costs and the sources of their financing in an attempt to investigate underfunding of these costs according to form of ownership (public and private) and type and educational profiles, the size of the university (by the number of students), focusing on the education of part-time and full-time studies. In particular, it concerns applying in practice an author's methodology for assessment of adequacy of the cost-intensity of studies, used by Ministry of Science and Higher Education (MSHE), as

well as a Least Squares estimation of determinants of financing the higher education costs level by grants from the state budget and fees charged for educational services with characteristics of education processes taken into account. The analysis is based on data concerning the cost of education, collected at public statistics level, based on forms like the F-01 / S on revenues, costs and financial results of universities, the S-10 about higher education as at November 30th and the S-12 on scientific scholarships, postgraduate and doctoral studies and employment in universities. According to the law on higher education, a triggering factor of the process of evaluating education costs is the management decision of the university authorities concerning the development and adoption of a relevant methodology for this process. Thus, because of the autonomy of the university and the diversity of universities' approaches to determine the cost of education, it seems to be more appropriate to analyse higher education costs level based on data retrieved from the public statistics system due to the uniform methodology. The solution proposed seems to perform better than collecting information from universities on their unit costs of education, in total or in the fields of education (per student or per teaching hour), calculated according to an individual methodology for the calculation of the costs of education, that was introduced and adopted by a management decision of the authorities of the university.

The study attempts to determine characteristics of the teaching process influencing the level of education costs financed by grants from the state budget, and fees for educational services in relation to total revenues from teaching. These are the main research questions. It seems that the level of education costs covered by grants influences the decisions of public universities on conducting paid part-time studies. At the same time due to the demographic decline, it can be expected that the part-time studies are underfunded by fees charged by public universities.

The paper is structured as follows: the theoretical background and the literature review are presented in the initial section, followed by the presentation of empirical studies on diversification of the cost of education at public and private universities, unit cost of education by type and size of higher education institutions and the weighted average cost-intensity of education. Then findings of models estimation are interpreted and discussed with references to the law regulation of the subject. The paper ends with conclusions and a summary, that includes recommendations to increase the possibility of future analysis of the education costs at the system level. They could be used as a tool to propose the evidence-based policy.

## **RESEARCH ISSUE IN THE LIGHT OF LEGAL REGULATIONS AND LITERATURE REVIEW**

Since 2013 universities have to meet statutory requirements, due to which they are obliged to record education cost separately for full-time studies, part-time studies and other educational activity, despite the fact that division into part-time and full-time studies was introduced along with the act of 27 July 2005 Law on higher education. In the aftermath of this 2005 amendment, full-time studies at public universities were fully government-funded and part-time studies were financed only by fees paid by students, while until 2005 part-time studies were being funded by MSHE's subsidies, with coefficient of 0.3 for part-time students. Moreover, for part-time doctoral students the coefficient of 2.0 was used, while for full-time doctoral students the coefficient was equal to 5.0 [Bieliński 2006].

Abolishing of the partial financing of part-time studies from the state budget aimed to create favourable conditions for development of competition among public and private universities in the field of fee-based studies. However, strengthening the regulations in 2013 is probably the results of rising concerns about the part-time studies' costs at public universities being treated as the marginal cost, not as the full cost, which suggests that there is an inequality between public and private universities, even on the part-time studies market. Non-public universities offering only part-time studies (universities concentrating on one product or bundle of products of the same kind – several related part-time programmes) cannot take their decisions on the basis of incremental costs calculations but they should consider full costs instead. According to the 2013 amendment, statutory categories of separate records of part-time and full-time studies divide financial flows by their purpose, but do not require high-detail principles of recording at the level of university which conducts studies. Urbanek and Walińska (2013) pointed out that public universities, as public sector entities, are required to spend the raised funds for their intended purpose.

In practice, courses at some universities are conducted for full-time and part-time students together, e.g. at several programmes offered by University of Warsaw. It does not impose the absolute equality between education costs for full-time and part-time studies of the same programme, because of the aggregation level of part-time studies costs, which is sometimes even set at university-wide level or at the particular programme's education level.

The Regulation of the Council of Ministers on detailed principles of financial management of public universities does not specify the exact methodology for calculating higher education costs and thereby leaves to universities the choice of cost accounting method (methodology for cost accounting and methodology for recording part-time and full-time studies' cost separately). Public university settles costs by type of activity, with a separate funding by grants from the state budget and by own revenues, on the basis of records of costs by nature and by function, underlying the preparation of financial statements [Par. 16, ust. 1 RRM]. Higher education costs of public university consist of costs of teaching process at every level of studies as well as costs of faculty training activities, university maintenance's

costs (including renovating costs, without dormitories and canteens [Par. 8 RRM]) and contributions to own scholarship fund [Par. 13, ust. 1-3 RRM]. The catalogue of costs is open and may include other costs of educational activity which provides an income [Par. 8 RRM].

The main categories of costs of educational services provided by universities are personnel costs and costs of infrastructure usage (mostly use of classrooms/research rooms and equipment). Among direct costs there are mainly personnel costs of lecturers, indirect costs refer to costs supporting teaching process, e.g. library and administration costs. When it comes to direct costs, the main problem is the proper choice of their recording method and the lack of clear regulations regarding distribution of working time between teaching activities, research activities and organizational activities. Hence, the data collected by public statistical institutions reflects only the composite remuneration costs (including teaching, research and separate operating activities) and the composite overall costs of educational activity, without structure breakdown. It raises the question about the influence of information asymmetry on the decision-making process in terms of distribution of public funds and ensuring that those funds are going to be used only for their intended purpose, instead of being partly spend on subsidising fee-based educational services (teaching part-time students).

Since 2013, due to the accounting policy the head of university should issue an order regarding guidelines for calculation of educational costs, which precisely regulates recording and calculation of direct and indirect costs of educational activity among full-time, part-time and other types of study programmes [Par. 16, ust. 3, Par. 18 and 19 RRM]. Especially the rector shall establish the method for settlement of direct and indirect costs of teaching activity, including remuneration costs which cannot be classified up-to-date as costs of full-time, part-time or other studies. It is permitted to calculate these costs proportionally to amount of teaching hours [Par. 19, ust. 1 RRM]. The calculation of education costs is done once a year, however the rector can arrange the settlement in shorter periods [Par. 20 RRM].

The most common cost methodologies used by universities are Activity-based costing, which has been implemented in several universities of technology, and in *Educational Cost Calculator* by dr Miłosz, Cost-plus pricing or Full costing method, developed at University of Łódź. The essential aspects of the effective cost calculation are solid management software systems e.g. SAP (Jagiellonian University, The University of Silesia, Częstochowa University of Technology), Simple (University of Łódź) as well as administrative and management staff with proper mentality and sufficient skills, who are capable of using management information generated by the system. It is difficult to benchmark educational costing because costs calculation is not carried out in the comparable way [on the basis of the expert consultations] and the Regulation of the Council of Ministers on detailed principles of financial management of public universities that does not determine a detailed cost recording.

Results from previous studies on the higher education costs composition show the dominant share of personnel costs, including remuneration costs [e.g. Falcon 1973, Franco 1991]. Franco (1991) notices that educational costs of public universities per student are more than twice as high as those of private universities. Personnel costs account for more than half the overall operating costs, both at public and private universities. Balderston (1974) stresses that cost analysis in higher education can be the basis for justifying the assessment of educational and commercial costs to sources of their funding (public or private), as well as for assessment of resources to certain types of activities. Capaldi and Abeby (2011) point out the differentiation of educational costs among various scientific disciplines being taught. Lack of relevant cost analysis, that would eliminate such distortions, may likely result in fees being set at a level which is not equivalent to real educational cost incurred by universities. Providing only the overall educational costs enables hidden subsidizing of more cost-intensive (unprofitable) programmes by less cost-intensive ones. Disparity of costs exists also among different profiles and degree levels – in general educational cost of student graduating with Master's degree is, intuitively, higher than student with Bachelor's degree and lower than student graduating with PhD. Ossowski (2009) claims that the main higher education cost are labour costs, which may account even for 90% of overall costs. Academic teacher hourly rate is determined by *dividing the monthly rate base salary with additions and 156 hours a month* [RMNiSW]. Ossowski (2009) suggests calculating the teaching process costs based on number of study groups or students overall, while Toutkoushian (1999) includes in his regression such dependent variables as costs generated by universities per student, graduate and research grant, and such independent variables as costs of Students' Office activity, institutional support, remuneration costs, transfers of budget funds to students (e.g. financial assistance, scholarships).

In Poland one can observe the growing importance of diversification of financing sources, targeted subsidies, competition and the increase in tuition fees that charge students and their households [Dąbrowa-Szeffler and Jabłeczka-Prysłowska 2007]. Distinctions in costs structure between public and private universities are most often the result of differentiation in size of universities, mode of studies or the form of employment of lecturers beyond faculty minimum. Over the 1997-2009 period private universities, despite generating lower revenues (in terms of unit values) than public universities, shown higher profitability (21-28%) between 1997 and 2001, while between 2003 and 2009 it was only 4.6-7.4% [Dawidziuk 2010].

While analyzing higher education costs, it is important to notice that the financial management's purpose of public universities is mainly to maintain its liquidity rather than generate an income. In the conditions of recent demographic decline and with prevailing "grant algorithm" public universities have a limited impact on revenues. This situation makes them focus mainly on evaluating educational cost of full-time and part-time studies with regard to relevant employment policy and carrying out a



teaching process: number of students in each group, assessment of teaching hours according to form of educational classes and working position or wage, monitoring the fulfilling of teaching hours and limiting overtime when those hours are not fulfilled by other co-workers, as well as fulfilling teaching obligations by doctoral students [On the basis of the expert consultation of dr H. Miłosz].

## **DIVERSIFICATION OF THE COST OF EDUCATION AT PUBLIC AND PRIVATE UNIVERSITIES**

Since 2010 public universities have not been able to counteract the process of greater growth of the teaching cost than the increase in revenues from educational services, as a result of significant decline in state funding and a sharp decline in the number and percentage of students paying fees. The resignation of taking paid studies also favours the increasing number of free-of-charge studies offered due to the impact of the number of full-time students on the amount of grant from the state budget based on the algorithm (student-doctoral component). Although the legislature inhibits the growth of the number of students enrolled free of charge by the reduction of algorithm-based subsidies paid to public universities who provide full-time studies, if the overall number of students increases annually by more than 2%, there is also a similar increase in the number of students studying for free with in some universities. For some specific fields of study that growth can be much larger, because the limit applies to the number of students in the whole university. The percentage of students paying for education has been declining since 2001, also considering postgraduate students and part-time doctoral students. The dynamics of the cost of education at public universities exceeded the growth rate of revenues from educational activities during 6 out of 15 years from the 1997 to 2012 period (Fig. 1). Over the 2010-2012 period, the percentage of part-time students paying for education decreased below 50% of all students at public and private universities. The number of part-time students declined in 2012 by 29.6% of the students for the 2005/2006 year. At the same time, the total number of students decreased by 14%. As a result, since 2010, the sources of financing education structure has changed - in 2005 as many as 58.9% of students had been paying fees, while in 2012 only 47.1%. In public universities, the percentage of part-time students decreased from 43.8% in 2005 to 27.2% in 2012.

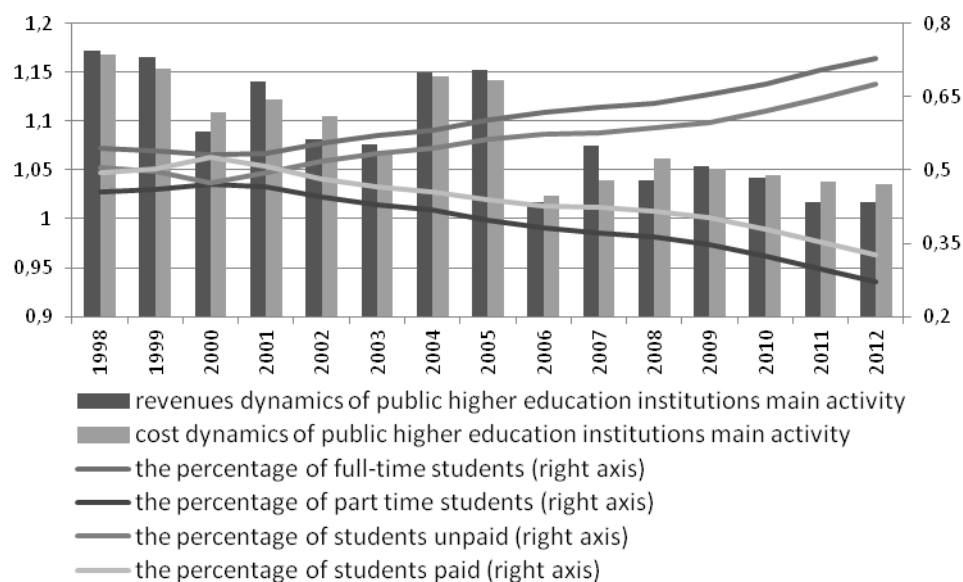


FIGURE 1. The financing structure of public higher education in the years 1997-2012

A broader look at the financing of the higher education system by those who are studying free of charge (student-doctoral component of the grant algorithm impacts the donation in public universities and grant resulted from teaching full-time doctoral students in private universities) and by those paying fees, indicates that the percentage of paying for higher education services is gradually, but steadily, decreasing. In total, paid education share decreased from 66% in 2000 to 61% in 2008 and 51.5% in 2012. Sudden change in the financing structure of higher education, intensified by demographic processes, has negatively affected the financial situation of universities in both sectors of ownership. In public universities share of students paying for education has been decreasing gradually from 50.7% in 2001 to 32.5% in 2012. Analysis of unit revenues of educational activities of universities in total (per participant of educational services) shows the growing importance of revenues from activities other than education, especially since 2010, and the stabilization of the nominal amount of the basic grant for teaching per full-time student, particularly since 2009 (Fig. 2). Based on data from the Central Statistical Office (CSO) in 2012 average fees for the classes at public universities (4 663 PLN) were 23% higher than in private universities (3 786 PLN), and over the analysed 16 year span average fees at public universities were 3% higher than fees at private sector. It can be assumed that the difference in amount of individual fee for educational services between public and private universities was partly influenced by the legislation that imposes self-financing of part-time studies by public universities. Fees charged cannot exceed the costs incurred to the extent necessary to open and conduct at the university part-time studies including the costs of preparing and implementing the development strategy of the university, in particular the development of academic staff and infrastructure (for education and research purpose), including depreciation and repairs [art. 99 PSW]. They could also be due to the higher cost of doing paid studies in public universities.

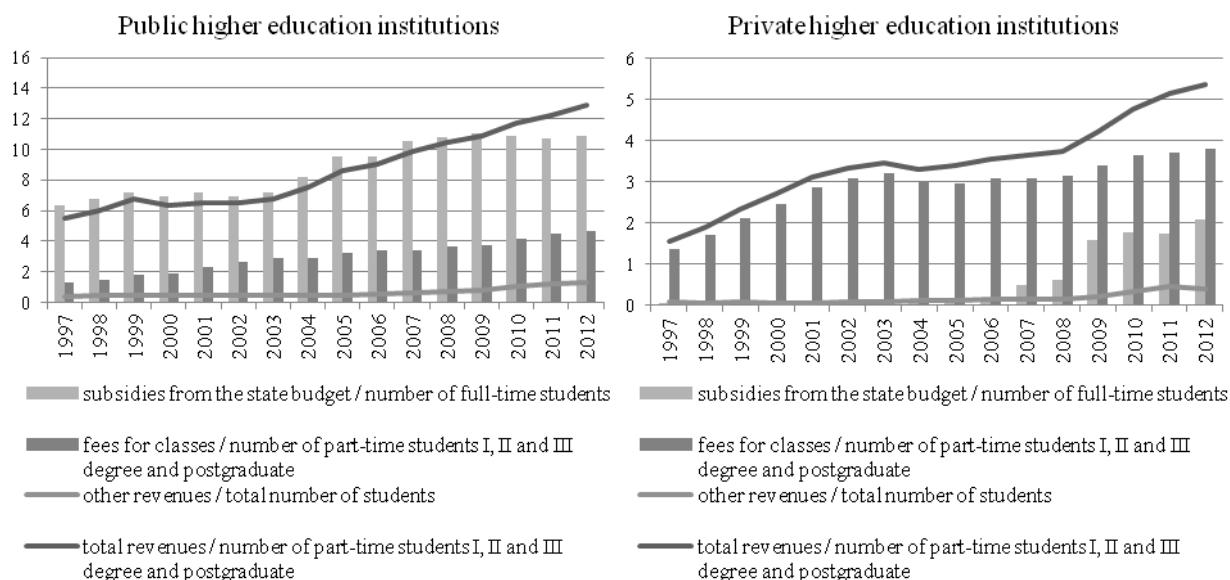


FIGURE 2. Revenues of higher education per student in the years 1997-2012 (in thousand PLN)

## METHODOLOGY, DATA SOURCES AND VARIABLE DEFINITIONS

The research will be conducted on the basis of data for 2013, purchased from CSO. The data contains forms like the F-01/S on revenues, costs and financial results of universities, the S-10 on higher education as at November 30th and the S-12 on scientific scholarships, postgraduate and doctoral studies and employment in universities, for universities grouped into 29 groups for statistical secrecy. Universities were grouped according to form of ownership (public and private), type (Table 2) and the size (measured by the number of students) with a focus on the education of part-time or full-time studies. To study the main determinants of funding of the higher education costs level by state grants and fees charged in relation to the revenues of teaching, a least squares method (OLS) regression is conducted. Definitions and descriptive statistics of variables used are described in Table 1. In the study I will take into account the average cost-intensity of education weighted by number of students for each

$$\text{programme of varying coefficients of the cost-intensity (WCI): } WCI = \frac{\sum_{i=1}^N k_i s_i}{\sum_{i=1}^N s_i} \quad (1)$$

where: N - number of different fields of study carried out at the university;

$k_i$  - cost-intensity of  $i$  field of study according to the Regulations and Communications of MSHE on the cost-intensive ratios (range 1.0-3.0) for individual fields of full-time study;

$s_i$  - the total number of students from all years of study of the  $i$ -th field of study (based on data purchased from the CSO, as at November 30th).

Name of variable	Mean	Std	Min	Max
Unit cost of education without financial assistance (CSO	15,770	10,797	4,429	40,811
The average fee for part-time studies	6,242	5,573	0	24,891
The fees for educational services / Total income from	0,301	0,328	0,021	0,955
Salaries of civil contracts / Total costs by nature	0,089	0,052	0,031	0,201

The basic grant for higher education / Wages with charges	0,811	0,440	0	1,418
Total revenues from teaching activities / Total wages with	1,271	0,128	1,034	1,606
The number of students per academic staff (full time	22,415	16,498	4,308	59,660
The number of visiting professors	6,7591	9,034	0	38
The number of postgraduate students / number of part-time	0,205	0,096	0	0,467
Foreigners at full-time and part-time doctoral studies /	0,487	0,735	0	3,591
The number of foreign languages / number of full-time and	0,449	0,078	0,307	0,608
The percentage of e-learning / blended learning students	0,010	0,029	0	0,126
Students per "administrative staff" (full- and part-time	24,331	17,219	4,921	64,145
Students / number of assistant professors (full- and part-	75,939	144,62	0	731,22
State budget grants / costs of teaching at higher education	0,580	0,306	0,005	0,894
Students / number of senior lecturers (full- and part-time	294,71	571,03	18,878	2330,2
WCI (weighted average cost intensity of studies)	2,070	0,483	1,449	2,855

Table 1. *Definitions and descriptive statistics of variables used*

## RESULTS

The unit cost of education for universities groups analysed using two alternative methodologies: Polish Central Statistical Office's (CSO) and Ministry's of Science and Higher Education (MSHE), are presented in Table 2. Higher education costing, using the CSO methodology applied in the study, fixed at the level of individual groups of universities, in relation to students conversion rate determined as a weighted sum of part-time students by a factor of 0.6, and full-time students, post-graduate and doctoral students with a weight of 1.0.

However, under the MSHE's methodology costs of teaching are related to the number of students conversion rate equal to the weighted sum of the number of part-time students with a weight of 0.5 and full-time and postgraduate students with a weight of 1 and doctoral students with a weight of 2.5. The average cost of education by distinguished groups of public universities according to the CSO methodology is higher than the cost of education determined according to the MSHE methodology, due to the different denominators, by about 5%. But for private higher schools that cost is 0.3%-3.9% lower in the case of private academies of economics, and higher by 0.15%-0.38% for the other private higher schools. These differences result from differences in the number of students converted at different rates: the part-time (0.5 or 0.6), postgraduate (1.5 or 1.0) and doctoral studies (2.5 or 1.0). There are similar differences in the fixed direct education costs, ie. wages with charges (social security deductions to the Social Fund) for workers employed under a contract of employment in universities engaged mainly in teaching (over 90%). On average salary overheads of contracts of employment in public schools represent 72% of the cost, while in private schools only 49%.

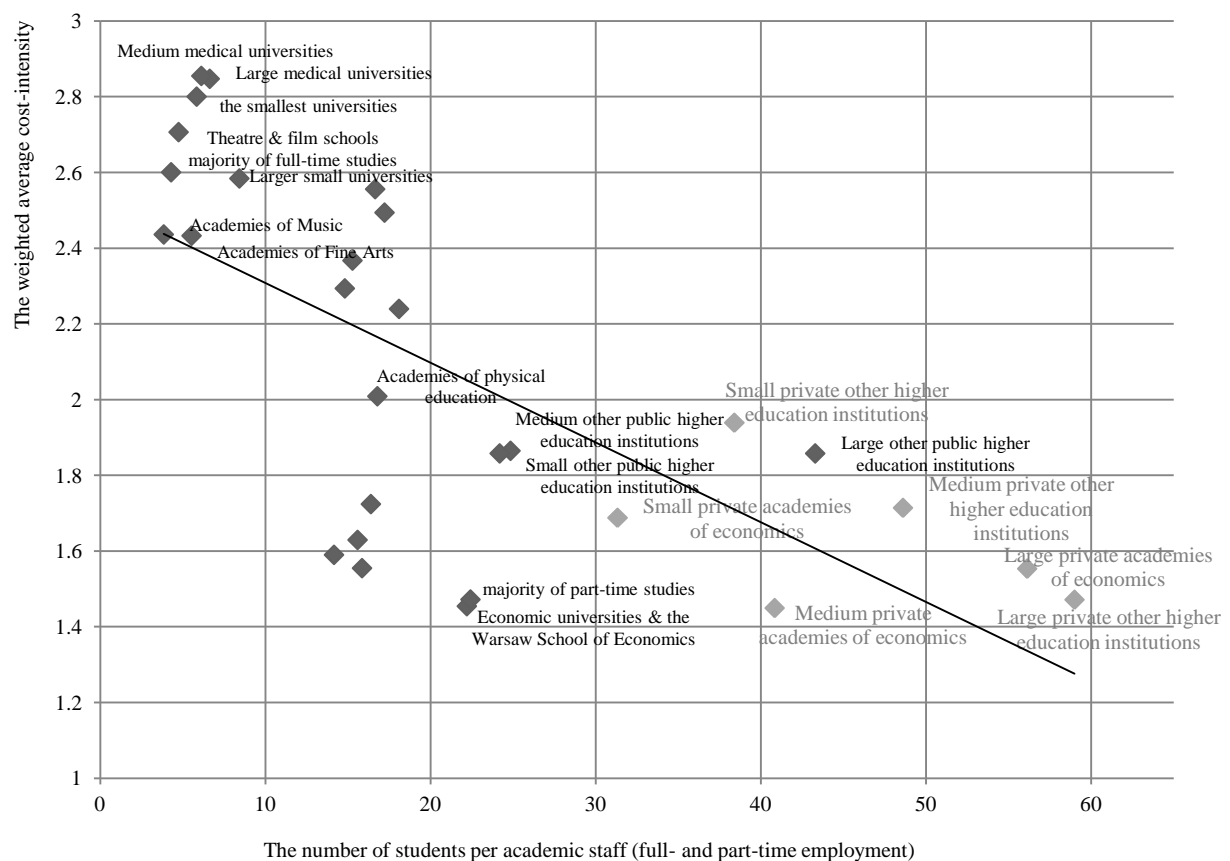
Higher education institutions	Statistical measure/ a group of higher education	Unit cost of education (in thousands PLN) - some statistical measures			
		CSO methodology	MSHE methodology	Wages with charges (CSO)	Wages with charges (MSHE)
Public higher	Mean	18,076	17,208	13,043	12,422
	Median	12,607	12,276	9,429	9,011

education institutions	Std. Dev.	10,757	10,094	7,574	7,115
	Coeff. of Variation	0,595	0,587	0,581	0,573
Private higher education institutions	Mean	7,197	7,384	3,554	3,650
	Median	6,737	6,755	3,320	3,283
	Std. Dev.	1,479	1,820	0,865	1,039
	Coeff. of Variation	0,206	0,247	0,244	0,285
Group of higher education institutions		Unit cost of education – the average values (in thousands PLN)			
Universities	Large	14,245	13,118	9,786	9,011
	Larger medium	11,622	10,926	8,402	7,899
	Smaller medium	10,604	10,003	7,963	7,512
	Larger small	21,006	20,060	15,303	14,614
	The smallest	31,152	29,190	21,387	20,040
Higher Technical School	Large	12,307	11,737	10,287	9,810
	Medium	12,607	12,276	8,839	8,607
	Small	10,974	10,859	7,852	7,770
	Technological	12,937	12,672	9,429	9,236
Higher agricultural schools		12,751	12,324	10,160	9,819
Teacher education schools		9,663	9,237	7,470	7,141
Universities with the majority of part-		8,510	8,088	6,468	6,147
Universities with the majority of full-		36,624	35,156	28,097	26,970
Private academies of economics	Large	6,341	6,361	2,717	2,725
	Medium	6,737	6,755	3,327	3,336
	Small	9,940	10,331	5,192	5,397
Other private higher	Large	5,951	5,943	2,879	2,875
	Medium	5,531	5,326	2,933	2,824
	Small	7,095	7,016	3,320	3,283
Economic universities		9,236	8,429	6,691	6,107
Medical universities	Large	26,202	24,469	19,116	17,851
	Medium	30,714	28,613	20,567	19,160
Higher schools of art	Academies of Music	37,906	35,925	27,824	26,370
	Academies of Fine Arts	29,428	28,002	17,983	17,111
	Theatre & film	40,811	38,513	29,244	27,597
Academies of physical education		11,275	10,823	8,543	8,200
Other public higher schools	Large	4,429	4,452	3,387	3,405
	Medium	9,839	9,869	7,172	7,194
	Small	10,899	11,049	8,016	8,127

Table 2. *The unit cost of education by type and size of higher education institutions in 2013*

In public higher education institutions the education costs fluctuate from 8510 PLN (in schools focused on the part-time education) and 4429 PLN in other large public higher education institutions up to 40811 PLN in the higher schools of art (theatre and film). High costs of education are associated with the implementation of specialized courses in small groups and with the use of expensive specialized equipment and materials for laboratory classes. Private universities do not provide education at such relatively expensive fields of study which either require specialized equipment and teaching resources or have to be carried out under special conditions and in small groups. Hence, their costs of education are at a much lower level than in public sector, ranging from particular 5531 PLN in medium-sized private institutions of higher education to 9940 PLN in small private academies of economics. This is confirmed by the relationship between the weighted average cost-intensity of studies and number of students per academic staff (full- and part-time employed) (Fig. 3).

Figure 3. *The weighted average cost-intensity of education compared to the number of students per*



#### *academic staff*

Education in higher education institutions of the weighted average cost-intensity of studies above 2 is carried out at public universities, in relatively small groups (at 4,3-18 students for one academic teacher), and education in private universities is provided at the cheapest specializations, ie. those with

of the lowest weighted average cost-intensity of studies, with 31-59 students per a teacher. It can be assumed that, despite the involvement of part of the staff (beyond the minimum staffing) in private universities under civil law agreement, classes in private schools are conducted in relatively larger groups. The most expensive education is conducted at medium and large medical universities, with a high weighted average of the cost-intensity of studies 2,855 and 2,847 respectively, and in relatively small groups (6.12 and 6.63 student). The results indicate that higher aggregate indicators of the cost-intensity of analysed groups of schools there are in the case of educational services for smaller groups of students.

Conducting estimation of linear regression model using OLS was preceded by an analysis of the correlation. The results of model estimates of the determinants of the education costs level financed by grants from the state budget and fees charged for educational services of higher education institutions in relation to total revenues of education are presented in Table 3. The results confirmed a strong positive correlation between the higher education costs level financed by subsidies from the state budget and salaries level with charges funded by the basic subsidy, and therefore also with administrative and research and education (academics) staff employed and paid from public funds. However, the greater stability of personnel employment measured by a higher level of financing their basic salaries by the grant reduces the incentive for offering of paid educational services, and thus reducing the share of payments for educational services in total revenues from teaching. The observed relationship indicates that the higher the level of payroll costs with overheads of contracted employment is funded by basic grants, the higher adjustment made by education institution in the structure of employment and other costs of teaching to the statutory possibility to fund them by grants within the existing grant algorithm. And the smaller the range of payroll costs with overheads of contracted employment are funded by basic grants, the more the university increases the offer of paid education. And in consequence the share of fees charged for educational services in total revenues from teaching is increasing. Similarly positive correlation between the share of paid education in the educational activity of higher education institutions and the level of coverage of the salaries by revenues from teaching, altogether with a negative relationship with the level of coverage of the employment costs by grants, points that the offer of part-time and postgraduate studies by universities with unused human resources (not fully financed by grants) is increasing. Higher share of fees charged for educational services in the revenues of teaching is accompanied by greater flexibility in employment (measured by the share of wages of civil-law contracts in costs by nature), while more stable financing of staff by grants from the state budget is accompanied by lower use of civil-law agreements.

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Explanatory variables	Grants from the state budget / costs of services / revenues of
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	Coeff. Std. Err.	t-stat p-value	Coeff. Std. Err.	t-stat p-value
Unit cost of education without financial assistance (CSO methodology)	0.0021742* (0.0012573)	1.73 (0.102)	0.002407*** (0.0007633)	3.15 (0.007)
The average fee for part-time studies	-0.003428** (0.0015972)	-2.15 (0.047)	0.0059015*** (0.0010868)	5.43 (0.000)
Salaries of civil contracts / Total costs by nature	-1.026798*** (0.2203115)	-4.66 (0.000)	1.141826*** (0.1418572)	8.05 (0.000)
The basic grant for higher education / Wages with charges from the employment relationship	0.5619628*** (0.0332107)	16.92 (0.000)	-0.566925*** (0.0222006)	-25.54 (0.000)
Total revenues from teaching activities / Total wages with charges from the employment relationship	-0.1687006* (0.0833341)	-2.02 (0.059)	0.238127*** (0.0641796)	3.71 (0.002)
The number of students per academic staff (full time employment)			0.0026621*** (0.0006947)	3.83 (0.002)
The number of visiting professors			-0.001669*** (0.0004636)	-3.60 (0.003)
The number of postgraduate students / number of part-time students	-0.1655461* (0.0886672)	-1.87 (0.079)		
Foreigners at full-time and part-time doctoral studies / number of teachers - foreigners	0.0307689** (0.0126031)	2.44 (0.026)	-0.018471*** (0.0061331)	-3.01 (0.009)
The number of foreign languages / number of full-time and part-time students	-0.1602935 (0.1129655)	-1.42 (0.174)	0.2079333** (0.0745842)	2.79 (0.014)
The percentage of e-learning / blended learning students			-0.136673 (0.1904787)	-0.72 (0.484)
Students per "administrative staff" (full- and part-time employment)	0.0020086** (0.0008734)	2.30 (0.034)		
Students / number of assistant professors (full- and part-time employment)	0.0000937 (0.0000594)	1.58 (0.133)	-0.0000972** (0.0000393)	-2.48 (0.026)
Students / number of senior lecturers (full- and part-time employment)			-0.000072*** (0.0000131)	-5.52 (0.000)
WCI (weighted average cost intensity of studies)	0.0412129 (0.0260859)	1.58 (0.133)	-0.080771*** (0.016565)	4.40 (0.001)
Constant	0.3669223*** (0.1225309)	2.99 (0.008)	0.3456349*** (0.0786093)	4.40 (0.001)
Diagnosis of the model, statistical tests for a total insignificance of the variables	N = 29, R2 = 99.41% F(11,17) = 261.79 Prob > F = 0.0000		N = 29, R2 = 99.83% F(13,15) = 678.49 Prob > F = 0.0000	
Ramsey RESET test:	F(3,14)=1.63, Prob>F = 0.2273		F(3,12)=3.31, Prob > F = 0.0573	

Symbols: \*\*\*, \*\*, \*, #, ## – significant at the level of 1%, 5%, 10%, 15%, 20%.

Table 3. *Determinants of education costs financed by grants from the state budget and fees charged for educational services*

The higher average fee for part-time studies, the higher education institutions are more likely to provide paid educational services (a higher proportion of fees for educational services in total revenues of teaching). Higher average fee for part-time negatively influences the level of coverage of education costs by grants from the state budget, which confirms that the lower funding of educational activities from public funds encourages universities to seek alternative sources of financing and charging higher fees for part-time studies.

Higher Education Law requires that public universities self-finance part-time studies, and in accordance to the regulations of law of higher education, fees charged cannot exceed the cost of these paid educational services. It can be assumed that higher average tuition fees charged are more appropriate for the full costing, not just the marginal costing.



These assumptions are strongly confirmed by the significant positive correlation between the unit cost of education and the share of fees charged for educational services in the revenues of teaching. Awareness of the education costs and the need for their coverage enforces the universities to increase the share of paid educational services in teaching activities. Additionally, the conclusions are supported by weaker relationship (significant at the 10% significance level) between the level of the unit cost of education and the possibility of a statutory grant to cover the cost of teaching activities. Increasing the number of listeners of postgraduate programmes in comparison to the part-time students lowers the share of subsidies from the state budget in financing the education costs. This is due to the relatively higher cost-intensity of the services provided within the framework of post-graduate than part-time studies, often as a result of the involvement of practitioners and experts at higher rates of remuneration than professors, catering for listeners or renting halls at market prices in attractive locations.

Conducting postgraduate studies (instead of part-time studies) reduces the financing costs of education with public funds despite the possibility of complementing hours to normal working hours by academics that have not executed teaching full-time, on-time imposed by law. In such a situation, an academic teacher is not entitled to additional remuneration for the teaching of postgraduate programmes beyond salary funded by a basic grant at public universities. The results indicate that the fees for postgraduate studies to a greater extent cover the costs of education than fee for part-time studies. The results for the determinants of share of paid forms of education in universities teaching activities indicate differences in the structure of employment between the public and non-public universities. In particular, the increasing number of visiting professors, a higher ratio of students per lecturer employed (full- and part-time) or in relation to the number of senior lecturers is characteristic of public universities to a lesser extent pursuing paid forms of education. The positive relationship between the number of students per administrative full- and part-time employee and the level of coverage of the education costs by grants from the state budget, points universities that restrict administrative employment in conditions of demographic decline to have an advantage over the other. Higher rate of the number of students per academic teacher employed for full-time significantly affects increase of the share of paid studies in education implemented by the university, which indicates that paid education is done in large groups of students. The findings result from the strategy of private universities limiting employment based on contract to the minimum staff level imposed by the higher education law.

The extension of education in foreign languages in full-time and part-time studies shows the positive impact on the share of paid educational services in revenues from educational activities, which results from increasing the number of hours of language courses and, consequently, salary expenses and costs of education. The education costs level financed by subsidies from the state budget is significantly

positively affected by a ratio of the number of foreigners in doctoral full- and part-time studies in relation to the number of foreigners employed as an academic. This indicates that universities achieve relatively higher benefits from the adoption of a foreigner for full- or part-time doctoral studies than the associated costs, probably due to the inclusion of them in the component of exchange in the statutory grant algorithm, by a factor of 3. In contrast, such a measure of the internationalization of universities impairs implementation of paid education, probably due to the sufficient support within the financing system of education with public funds.

A significant negative correlation between the share of fees charged for educational services in revenues of education and the cost-intensity of studies carried out in universities, with the weights being the number of full-time students by fields of education, and the cost-intensity coefficients were retrieved from the MSHE's communications. This indicates that education at more cost-intensive fields of study is carried out at universities providing paid educational services in lesser extent, so it is mostly funded by state grants. Statistical analysis of detailed data on the level of separate groups of higher education institutions suggests that underfunding costs of education in medium medical universities equals to 14.5% of the cost of teaching with the basic grant covering only 58.9% of the costs. Underfunding costs of education at economic universities represents 1.1% of the cost of education at the basic grant covering only 57.7%.

For comparison, in the other public higher schools that grant financed 75-85% of the costs. The fees charged for educational services represented, on average (and for median observation), 92% of education revenues of private higher schools, of which 75% came from fees for part-time studies. In public universities charge for educational services showed high variability (CV over 49% compared to 2% in the private sector), and the volatility of revenues of part-time studies was even higher (54% compared to 8.5% in private schools). On average, fees for education accounted for nearly 14% of revenues from education, mostly in the economic universities (28.6%) and the least in the schools of only full-time studies (2.1%) and in the public higher schools of theatre and film (4.2%). The highest revenues of fees charged for part-time studies reached a small private academies of economics (75.6%) and the medium other private higher schools (74.4%) and the lowest - large other private higher schools (59.5%).

## CONCLUSIONS

The results show that education in public universities is provided with the weighted average of the cost-intensity of studies above 2, in relatively small groups (4,3-18 students). While education in private universities is done on the cheapest specializations, with 31-59 students per teacher. The most expensive education is conducted in medical universities, with a high cost-intensity of studies at 2,855

and 2,847 respectively, and in small groups. This confirms the adequacy of the MSHE's cost-intensity indicators of studies to the size of study groups, at least at the aggregate level of university groups distinguished by forms of ownership, types and size. It would be recommended to extend this research in case of increased availability of data, in future, for individual universities, as indicators of the cost-intensity reflect the relative costs of education. Increase in the cost-intensity of one field of education reduces the cost-intensity of other fields of the more, the more this course has a mass character [Sztanderska 2014, p. 115].

The findings indicated that the education costs level financed by grants from the state budget depends on unit education cost, administrative and academic staff employed who are paid from the basic grant, the ratio of foreigners in doctoral programs to the number of foreign teachers and a larger number of students per administrative staff. In contrast, the reduction of the education cost level covered by state grants is influenced by higher average fee for part-time studies, a higher share of wages of civil contracts in the costs by nature, a higher coverage of wages with charges from revenues of teaching and relatively more postgraduate students in relation to part-time students. The share of fees for educational services in total revenues of teaching is determined by unit costs of education, higher average fee for part-time studies, a higher share of wages of civil contracts in the costs by nature, higher coverage of wages with charges by revenues of teaching, a class group size and the number of foreign language courses. The education cost level covered by grants influences the decision of public universities whether to run paid studies. Due to the demographic decline, many universities faced insufficient covering of the education costs of the part-time studies by fees. Underfunding of the costs of education in medium medical universities equals to 14.5% of the overall education costs and in economic universities it is 1.1% of overall education costs.

To carry out in-depth analyzes of the costs of higher education, it would be necessary to collect data on the education costs by nature. It seems advisable to change the profit and loss account in the form of separate statement of revenue and operating costs for a relevant system for a margin account, defying income from teaching activities corresponding with their costs. This would enable analyse coverage of educational costs in the various segments of teaching. It would also facilitate the monitoring of universities' undesirable behaviours related to the financing of full-time studies by fees charged for part-time studies, and vice versa.

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## SMES AND GLOBALIZATION

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### ABSTRACT

*Purpose:* This paper uses the different models developed in international business and the international experience of small and medium-sized enterprises (SMEs) to propose efficient ways for SMEs of confronting globalization.

*Design/methodology/approach:* The experience of SMEs in countries driven by pursuit of efficiency and innovation is analyzed, taking into account the stage of development of the country and the SMEs. Uniqueness, cooperation, coalition, and integration are keys to success in the global market, as illustrated by case studies.

*Findings:* Successful factor-driven SMEs chose contract marketing based on specialization and improved efficiency and establishing various kinds of coalition or cooperation. Successful efficiency- and innovation-driven SMEs improve their global position by offering some unique value, by participating in or initiating a coalition, or by establishing strategic alliances with a multinational corporation (MNC).

*Practical implications:* Analysis of successful case studies illustrating each model of globalization helps the SMEs in selecting the best international business strategy over time.

*Originality/value:* Each model of globalization is illustrated by selected SMEs that have successfully implemented it.

**Keywords:** *SMEs, globalization, factor-driven, efficiency-driven, innovation-driven, alliance, strategy*

### INTRODUCTION

SMEs must develop a strong competitive advantage to be able to confront international competition. To be sustainable over time, a competitive advantage requires ongoing adaptation to changing conditions. This paper examines the various models of international business strategies and their adaptation to SMEs capabilities and objectives.

We intend to identify the reasons of success in the global market of SMEs in countries in different stages of development, in order to propose to SMEs the best strategy for entering the global market. We first identify the countries in which SMEs are most efficient in exporting their products, and

whether there is any correlation between the stage of development of their country and their own stage of development. We discuss which international business strategy is the most efficient for SMEs based on their stage of development, factor (cost), efficiency, and innovation. In the last part, we illustrate the main successful strategies by selected SMEs in two categories: factor driven and efficiency- or innovation-driven SMEs.

## **CONTRIBUTION OF SMES TO EXPORT**

SMEs (fewer than 500 workers) in the US comprise 97.7% of all identified exporters. They account for 33.6% of the export (US Census, 2015). In 2010, 96.5% of manufacturing exporters were SMEs, and they contributed 19.1% of the sector's \$839 billion in exports (USITC, 2010). Almost half of US exporters have fewer than 50 employees, 59% export to just one market, and 83% export to 1-4 markets (Suominen, 2014; US Census Bureau).

In 2011, in the European Union SMEs accounted for more than a third of total EU exports, and represented 81% of the firms exporting outside the EU (EC, 2014). Over 600,000 exporters were SMEs, and they generated over 500 billion euros. Italy, France, Spain, and Germany accounted for over 50% of total EU SME exports. The share of exporting SMEs differs by member states. In 13 EU member states, SMEs accounted for 90% or more of the total number of exporting enterprises. At the other end of the spectrum, in Spain, Germany, the Czech Republic, and Greece, the share of SMEs is below EU average.

SME exporters represent a small share of the total number of SMEs in the EU (Gagliardi et al., 2013). Twenty five percent of EU-based SMEs had been involved in exports in 2010 (within and outside Europe) in the three previous years (EC, 2014). Only 13% targeted markets outside the EU (EC, 2010, p 8).

In Latin America, 30% of GDP is produced by SMEs, whereas in developed OECD economies the share of SMEs in GDP is 60% (Avendaño, Daude, & Perea, 2013). Less than 10% of small firms, and just around 12% of medium enterprises in Latin America participate in export activities (OECD, 2012a).

In the Philippines, Indonesia, Laos, and Vietnam, about 12% of small firms and over 25% of medium-size firms are involved in international export markets (OECD, 2012a). In Japan, 63.1% of the SMEs are not globalized, 15.8% export, 8.5% have a partnership with a foreign company, and 7.8% have

manufacturing facilities abroad (Tokyo Chamber of Commerce and Industry, 2012). These activities are supported by JETRO (2013). The most promising markets for Japanese SMEs in Asia are those in Thailand, China, Indonesia, and Vietnam (JETRO, 2013).

## **CORRELATION BETWEEN STAGE OF DEVELOPMENT OF COUNTRIES AND SMES**

The World Economic Forum (WEF) classifies countries according to their stage of development as follows: stage 1—factor-driven, stage 2—efficiency-driven, and stage 3—innovation driven- (Schwab, 2015).

Countries in stage 1 are characterized by low-cost labor and some of them by natural resources, but with weak institutions, infrastructure, macroeconomic environment, health, and primary education. Factor driven SMEs competitiveness in the global market is mainly expressed by indirect export to MNCs or by their partners in the local market. Countries in stage 2 develop competitive advantage based on specialization. SMEs in those countries could be factor and efficiency driven. The economy of countries in stage 3 is based on business sophistication and innovation.

In countries in stages 2 and 3, both efficiency- and innovation-driven SMEs can be found according to DHL-HIS research (2013). This research has analyzed the profile of high-performing SMEs in the two groups of countries, those at the efficiency-driven stage (Brazil, Russia, India, China, and Mexico (BRICM)) and those at the innovation-driven stage (the G7, United States, Japan, Germany, UK, France, Canada, and Italy). In the first group the criteria for high performance was 10% growth during the last 3 years, in the second group, 20% growth.

According to the results of the DHL-HIS study, high-performing SMEs in BRICM countries belong to two different groups: innovation-driven (mainly Russia, and partially India) and efficiency-driven (Brazil, China, and Mexico). In stage 3 countries, high-performing SMEs belong mainly to the innovation-driven group in the United States and Japan, and to the efficiency-driven group in the UK, Germany, Canada, Italy, and France.

### *Factor-driven SMEs*

Factor-driven SMEs generate their revenues mainly from products and services related to local natural resources. A part of their products and services is exported directly across the borders with neighboring countries, or indirectly through local exporters. SMEs from the informal and formal economies participate and cooperate in this process.

The informal sector represents 80% of the total labor force, contributing about 55% of GDP in sub-Saharan Africa (UN, 2015). Formal and informal economies are interconnected and cannot be analyzed separately.

Local formal firms supply the domestic market with products and services imported or produced locally, in cooperation with SMEs belonging to the informal economy.

Successful factor-driven SMEs improve their competitive advantage by a deeper specialization and higher cost efficiency (Hanson, 2012), for example, in the case of cotton knitwear in India (Porter, 2011; TEA, 2011; **Narasimhan & Chennai, 2013**) and in the textile industry in Prato, Italy. SMEs in Tirupur are successful also because of strong government and professional support (Porter, 2011; [www.unido.org](http://www.unido.org)).

The Tirupur region grows cotton, This was the factor driving the wide-scope knitted apparel industry . 5,000 businesses compose the textile value chain from cutting, making, and trimming knitted fabrics in pieces to transporting and selling in the local and international market. A high degree of subcontracting and cooperation is involved in knitting, processing, and finishing operations.

#### Efficiency driven SMEs

Efficiency can be improved in two ways: by using more efficient resources, including labor, and by better adapting the product to the market.

Immigration from China to Prato started with 38 immigrants in 1989 (Ceccagno, 2003). A strong flow of Chinese immigrants settled in the Prato area: an estimated 10,000 in 2006 (Ceccagno, 2009), and between 16,000 to 50,000 in 2014 (Kwong & Sanderson, 2014). Currently, there are about 4,000 Chinese-owned registered firms that deliver ProntoModa apparel to European customers in the low-end segments.

When Xu Qiu Lin came to Prato, in the 1990s, he worked as a leather cutter for Benetton (Bijaoui, 2015). Today, after having recognized that there is no real future in cheap goods only, he emphasizes labor efficiency in providing better quality and specialization in leather clothing. In 1992, he created Giupel, Ltd, a company producing high-quality, "Made in Italy" leather and down jackets, and promoted his own brand under his name. In 2004, Xu Qiu Lin signed Gabriel Batistuta, an immigrant from Argentina and a former star forward for Florence's Fiorentina Football Club, as a spokesman for his label.



Efficiency-driven SMEs develop competitive advantage in niche markets based on business specialization and sophistication, and on the quality of the business networks and of human capital. In some sectors, SMEs operate in the international niche markets directly by offering an end product, a component, or an application in a product value chain.

Gonzales and Hallak (2013) analyzed the international penetration of Argentinean SMEs into non-mass market segments of medium- and low-technology sectors in developed countries. Among others, they analyzed two such cases in Argentina based on the studies of Artopoulos et al. (2013), Gonzalez et al. (2012), and Bisang et al. (2013). Luis Lopez Blanco, the owner of Aqualum Yachts, was the representative of Ferreti, a premium Italian brand of motorboats, and of Cummins, a US motor engine producer, in Argentina, as well as of domestic boat brands. In 2000, he started to produce his own motorboats and made his first export to a developed country. As an importer, he attended the most important trade fairs and had frequent and ongoing contacts with foreign agents. The knowledge he acquired by socializing permitted Lopez to detect the potential in offering Italian design motorboats to foreign consumers.

#### *Innovation –driven SMEs*

Internationalization is more efficient for innovation-driven SMEs than it is for efficiency-driven ones because of their stronger competitive advantage in technology. Lecerf (2011) demonstrated it in her research on French SMEs. Kyläheiko et al. (2011) proved that innovators are more export intensive than non-innovators.

Aw et al. (2011) and Giovanetti et al. (2013) proved that research and development activities offers conditions essential for the creation of patents and for developing exports. OSG ([www.osg.co.il](http://www.osg.co.il)). started by producing any window for any car. As an innovation-driven company OSG developed light-weight compositions for the transportation market, front-line transparent armor systems, and smart window technology. OSG developed also solar power glass systems, concentrated solar power (CSP) and concentrated photovoltaic (CPV).

Biancalani, a family-owned Italian SME specialized in textiles products, has developed the Airo® machine, for washing, drying, and softening any kind of fabric (see the [www.indiantextilemagazine.in](http://www.indiantextilemagazine.in)). Since its introduction in 1985, it has been the standard for textile finishing. Airo® is synonymous with soft touch, volume, and drape of the fabric. Airo® breaks the fiber in order to impart a softer feel to it.

Zortrax is a Polish manufacturer of professional 3D solutions founded in 2011. The roots of the company go back to 2001, when Rafal Tomasiak and Michal Olchanowski, from the Masuria region, met and became interested in the potential of the Internet (EU, 2015). Around 2010 they started developing a 3D printer. The initial idea was to develop and produce a smaller 3D printer than earlier models. In 2013, the 3D printer, Zortrax M-200, was ready to be marketed, and in 2014 a Zortrax Retail Store was opened in Krakow. The Zortrax name has become associated with the Zortrax M-200 3D printer, a leader in the 3D printer market for home and professional use, priced at Eur 1, 900. With only 120 employees, Zortrax reaches people in 24 countries through a reseller network.

## MODELS OF GLOBALIZATION FOR FACTOR-DRIVEN SMES

Factor-driven SMEs seek suitable business support or coalitions to increase their competitiveness in international markets. Support for SMEs could be achieved by preliminary contract (contract marketing), incubation process (incubators and open incubators), hub processing, generating business and knowledge transfer, export consortia, and cooperatives.

### *Contract marketing (CM)*

CM provides growers access to supply chains with market and price stability, as well as technical assistance (Wiboonpongse & Sriboonchitta, 1995; Eaton & Shepherd, 2001; Sriboonchitta & Wiboonpongse, 2008). For resource-poor growers, production input and farm investment on credit are often provided by firms. In return, contracting firms expect delivery of goods in specified quantities, quality, and at set prices. All the cotton and tobacco in Mozambique is produced through CM (ICRAF, 2007). In Zambia, 100% of paprika, tobacco, and cotton are produced based on this model. In Kenya, contracted farmers produce 60% of tea and sugar, and all the country's tobacco. In these countries and elsewhere on the continent, CM is used to integrate smallholder farmers into commercial agriculture.

### *Incubation Model*

Business incubation in agricultural business generated in an incubator or through direct support of SMEs at their own location has the potential to enable growth and internationalization. The objective of such support could be focused on a specific positioning in the relevant value chains or on the competitiveness of a sector.

Fundación Chile was created in 1976 as a nonprofit organization governed jointly by the Chilean government and a large American conglomerate (Infodev, 2014). It proactively introduces

technologies and promotes industries in agribusiness, marine resources, forestry, environment and chemical metrology, and information and communication technologies, and improves human capital by supplying relevant training programs. In 1979, Fundación Chile initiated the Asparagus Cultivation program, encouraging exports and providing technical assistance to farmers. The foundation operated 40% of the national acreage dedicated to asparagus crops. As a result of this program, cultivation techniques were adopted that led to improved product quality, and exports increased considerably, from 6.2 tons a year to 7,550 tons a year by the 1990s. In 1985, Fundación Chile established Berries la Union, a berry program to introduce new species and varieties of berries and to expand the zone where they could be grown domestically.

### *Cooperatives*

Cooperatives were introduced to Finland at the turn of the 20th century. It started in 1899 with the foundation of Pellervo— the Confederation of Finnish cooperatives, and the first Cooperative Act came into effect in 1901 ([pellervo.fi/kielet](http://pellervo.fi/kielet) website). The Finnish cooperative model started by supporting factor-driven SMEs, including farmers and growers. Because of its support, the SMEs are today efficiency-driven and some of them are innovation-driven. Below is an in-depth presentation of the forest cooperatives, which succeeded in generating efficiency- and innovation-driven processes.

In Finland, there are 632,000 individual forest owners. State lands are managed by Metsähallitus (Finnish Forest Research Institute, 2011; Vaajoki, 1999). Finnish forest holdings are small. Forty percent of the forest owners still live on their holdings. The number of holdings above two hectares is about 347,000. The average size of these holdings is 30.3 hectares. Private Finnish citizens own 52% of all forest land. The number of private forest holdings of at least one hectare is about 440,000. The number of individual private forest owners is estimated at 920,000, which means that almost every fifth Finn is a forest owner. Around 65%-70% of the annual growth and 80-85% of the commercial felling of timber come from privately owned forests. Thirty five percent are state-owned forests, 8% private industrial, and 5% community-owned, including churches (Finnish Forest Research Institute, [smi.fi](http://smi.fi) website).

### *Export Consortia*

An export consortium is “a voluntary alliance of firms with the objective of promoting the goods and services of its members abroad and facilitating the export of these products through joint actions” (United Nations Industrial Development Organization, 2003, p. 3). Development of a “common identity” is mentioned by member firms as the value created thanks to the common logo, brand, and the development of common marketing operations (Antoldi, Cerrato, & Depperu, 2013). Export

Consortia help member firms overcome the barriers related to their constrained managerial resources and limited experience (Katsikeas & Morgan, 1994; Tesfom & Lutz, 2006). Superior managerial know-how is highly significant, particularly in developing countries, where SMEs have low managerial experience (Lall, 1991).

SMEs take advantage of networks to overcome the constraints due to their smaller size and to leverage critical external resources (Welch et al., 1996; Zhou et al., 2007). Participating in an export consortium makes it possible for SMEs to carry out certain activities, such as the arrangement of trade missions and of marketing events that would not be feasible if the SMEs acted independently from one another. Several studies (Chetty & Agndal, 2007; Coviello, 2006) have shown that SMEs rely extensively on networks in pursuing international opportunities. In many cases, the international expansion of such firms is motivated and facilitated by inter-firm ties and alliances (Coviello & Munro, 1995).

Vitargan is an export consortium that was set up in 2005 by six cooperatives of argan

oil producers in the region of Essaouira, Morocco, who produce oil for both

cosmetic and alimentary purposes. The consortium was created within the framework of a broader project financed by the European Union with the aim of favoring the production of argan oil in the area, and promoting the role of women in rural areas and their contribution to economic and social development. Member firms decided to develop a joint packaging process (horizontal network) and shared promotion, communication, and marketing campaigns (vertical network). (cooperative-argane.com).

## **MODELS FOR EFFICIENCY- AND INNOVATION-DRIVEN SMES**

Efficiency- and innovation-driven SMEs have a competitive advantage based on their capability to generate better value for customers. This value can be translated into benefits through products and services sold directly by the SMEs in the global market. If competition is strong, especially in the case of efficiency-driven SMEs, business networks, supply chain partnerships, joint ventures, strategic alliances, alliances by acquisition, and integration by acquisition are potential models that can improve the added value offered by SMEs in the global market.

### *Business networks*

A business network allows firms located in different regions or countries to collaborate on a basis of common interests, as expressed in a cooperation agreement or contract (EC, 2014). The companies

decide to join their strengths, share information, and create synergies to become more competitive, while keeping their autonomy and not constituting a separate legal entity. The objectives could be business collaboration, increased buying power through joint purchasing, optimizing recruitment of talent, and providing intellectual property protection.

Ford (2002, p. 30) argued that the two most important networks for a firm are its supplier and distribution networks. The model of industrial networks proposed by Håkansson and Johanson (1992, p. 28) presents the basic structure of the industrial network as a combination of three components: activities, actors, and resources. Below are two examples of business networks.

RetImpresa was established in 2009, ([www.retimpresa.it](http://www.retimpresa.it)). It is an Italian business network association that delivers services to eight business networks and their affiliated members (EU, 2014).

Some of the business networks assisted by RetImpresa are:

- ACRIB footwear system in the Brenta Riviera, the area between Padua and Venice, and in the entire Veneto region.
- AU.TE.BO Automation Technologies Bologna System Integrator - Subcontracting Network.
- The Verona Garda Bike tourism business network. The five partners are important companies in the tourism, wine, and food industries.

The Professional Association COSMED was created in 2000 ([www.cosmed.com](http://www.cosmed.com)) out of a desire for SMEs to be represented vis-à-vis and heard by the French and European authorities in charge of the cosmetics industry. COSMED has about 675 member companies, representing approximately 20,000 jobs across France. Eighty percent of COSMED members are small and medium enterprises that have between 25 and 100 employees. The remaining 20% are made up by very smaller businesses (fewer than 10 employees) and larger businesses (over 200 employees). Membership is voluntary. The governance structure of the Association is based on a permanent management team of ten people who coordinate COSMED services, and a board of directors, including a president, two vice-presidents, a treasurer, and a secretary general.

COSMED has helped develop relevant regulatory and monitoring legislation for 92 countries worldwide. HACosmed obtains trading terms for its members from major industrial groups, because of the production volumes generated by the network. COSMED also organizes partner events to promote business cooperation.

*Product-region trademark*

SMEs can protect their competitive advantage by determining common principles of production and creating a common regional product branding protected by international laws. Three European Union schemes of geographic indications and traditional specialties, known as protected designation of origin (PDO), protected geographic indication (PGI), and traditional specialties guaranteed (TSG), promote and protect names of quality agricultural products and foodstuffs ([ec.europa.eu/agriculture/quality/schemes](http://ec.europa.eu/agriculture/quality/schemes) website).

For example, in 1930, La Confédération Générale des Producteurs de Lait de Brebis et des Industriels de Roquefort (the General Confederation of Ewe's Milk Producers and Industrialists of the Land of Roquefort) created a collective brand, the "Red Ewe," to guarantee consumers that all the quality controls, and particularly those required by the Appellation d'Origine Roquefort, are scrupulously observed. To qualify as Roquefort cheese, the product must comply with the conditions set for the Red Ewe brand. This branding is now a registered trademark in more than 80 countries worldwide.

*Strategic Alliances*

Strategic alliances involve the development of joint routines and capabilities, the sharing of intellectual and scientific skills, and possibly joint research and development (Ahuja, 2000; Hagedoorn & Duysters, 2002; Soh, 2003).

There is no need to establish a new juridical entity for forming a strategic alliance. Below are described two cases based on a strategic alliance with leading players.

Softpren formed an alliance with Paramount Bed to bring its water mattress to the international market. This product was originally developed based on the "pressure dispersion effect theory" originated by Nobuyoshi Morita, Professor Emeritus of the Faculty of Engineering at Shizuoka University ([jgoodtech.smrj.go.jp](http://jgoodtech.smrj.go.jp) website). Paramount Bed, a top manufacturer of hospital beds, was interested in this technology. Softpren joined forces with the Paramount Bed design team to develop the Water Mat, a mattress shaped to provide a superior pressure dispersion effect. Today the revenues of Softpren's Water Mat business exceed 100 million yen annually.

Mobileye was founded in 1999 by former Hebrew University Professor Amnon Shashua. The award-winning technology of Mobileye was commercialized through Yisum, the R&D arm of the Hebrew University (Leichman, 2014; [israel21c.org](http://israel21c.org) website). Mobileye is a specialized camera-based advanced driver assistance system for automobiles. Mobileye technology keeps passengers safer on the roads,

reduces the risks of traffic accidents, and has the potential to enter the market of autonomous driving ([www.autonews.com](http://www.autonews.com)). In 2003, Mobileye announced a strategic cooperation agreement with Denson Japan on the joint development of advanced driver assistance systems that combine Mobileye video processing technology with other sensory systems including, laser and radar. Denso is one of the largest global automotive suppliers of advanced technologies, systems, and components, seeking to promote an automotive culture in which cars have a lesser effect on the environment and drivers have fewer worries about traffic accidents (Mobileye, 2003; [www.globaldenso.com](http://www.globaldenso.com)). In 2007, Mobileye established strategic cooperation agreements with three dominant customers: BMW, General Motors, and Volvo. In 2015, 23 global automakers used the Mobileye system (Mobileye, 2015).

Mobileye and Valeo have joined forces to combine Mobileye's EyeQ® family of microprocessors and computer vision algorithms with Valeo's strong driving assistance sensor portfolio (Valeo website). This system is now competing with the Google driver assistance system (Williams, 2015). Mobileye plans to launch "the first hands-free capable driving at highway speeds and in congested traffic situations" in 2016.

#### *Alliance by acquisition*

An SME is acquired by MNC but remains independent and is responsible for a specific range of products or a specific geographic market. Below are the examples of two SMEs illustrating this type of agreement.

MaterMacc was established in the early 1980s in Italy by the Fiorido family. MaterMacc specializes in manufacturing precision crop sowing machines. The company employs about 75 people. Its sales in 2013 reached Eur 18 million. It enjoys a solid position in the Chinese agricultural implements market. In 2015, MaterMacc decided to strengthen its global position by merging with Foton Lovol International Heavy Industry Co., a Chinese group specializing in agricultural equipment, construction machinery, vehicles, and core components from China ([www.matermacc.it](http://www.matermacc.it)). Production plants remained in San Vito al Tagliamento, Province of Pordenone, the industrial center of north-eastern Italy. The Foton Lovol acquisition is consistent with its internationalization strategy (Foton Lovol, 2015). This investment will further expand the product portfolio of Foton Lovol and enable the company to offer better solutions of full mechanization of agricultural production to its global customers.

Zeraim Gedera was founded in 1952 by seven families from Gedera in Israel ([www.zeraim.com](http://www.zeraim.com)). The original vision was to produce low-cost, good quality seeds for farmers in Israel, contributing to the

development of local agriculture and creating jobs for the new immigrants, and to export seeds to Middle Eastern countries. The Weizmann Institute provided the company with the initial boost and leverage for expansion with the development of the Delilah cucumber variety. The main seed varieties marketed by the company are for peppers, tomatoes, cucumbers, squash, watermelons, and melons. Today Zeraim Gedera employs approximately 200 workers at its site in Revadim, Israel, and about 50 employees in strategic international markets, such as Spain, Turkey, Mexico, Brazil, Egypt, and Morocco. The ability of Zeraim Gedera to bring innovative products to the market and to enjoy the cooperation of leading agricultural institutions such as the Volcani Institute of Agricultural Research and the Faculty of Agriculture at the Hebrew University in Jerusalem has led to its acquisition by Syngenta, in 2007. Syngenta is the third main world producer of seeds after Monsanto and Dupont (Tielens, 2016). The three companies control more than half of seeds sales worldwide.

#### *Local market leader*

Essilor is the world leader in the production of corrective lenses. Its flagship brands are Varilux®, Crizal®, Definity®, Xperio®, Optifog™, and Foster Grant®. Essilor provides a range of non-prescription reading and sunwear glasses through its FGX subsidiary, to grant people wide access to quality vision correction solutions. The local leader model is based on the acquisition of a firm that remains independent in its local market and sometimes in the global market. Essilor acquisitions of SMEs based on this model in selected countries improved company knowledge and business capabilities for the benefit of both sides (essilor.com website).

- Servi Optica, South American market. Servi Optica is a Colombian SME with a revenue of Eur 29 million, which sold 51% of its stake to Essilor in order to expand its global activities to Peru, Venezuela, Ecuador, and Bolivia (www.finanzen.at).
- Ishir Optick, Turkish market (essilor.com website). Ishir Optick, a Turkish company, with a yearly revenue of Eur 15 million, sold to Essilor a majority stake in order to expand its activities in the local market.
- Tianhong, Chinese market (www.essilor.com). Tianhong, an SME with a yearly revenue of Eur 19 million, sold a majority stake to Essilor in order to expand its local activities in tier 2 and 3 cities across China.

#### *Integration*

The SME can decide to be fully integrated within the activities of the MNC acquiring it. Below are two examples illustrating this model.



Abafoods was established in Veneto in 1997. It is focused on vegetal drinks, with a range of cereal drinks using rice, coconut, almond, oat, spelt, and soy. It distributes its products under the main brand Isola Bio, which is the leading vegetal drinks brand in the Italian health food stores and is exported to many European countries. Abafoods employs about 90 people and owns around 400 hectares of farm land in Italy, where it grows part of its raw materials (such as rice, almonds, oats, and soy) used as ingredients for making organic drinks. The company reported 2014 sales at Eur 39 million. In 2015, a Netherlands-based food company Royal Wessanen NV, acquired total control of Abafoods for Eur 52 million. Abafoods' expertise in dairy alternatives will strengthen Royal Wessanen R&D and production capabilities, fueling the growth of its brands in Europe. In addition, it gives the company a critical mass in Italy, with a leading brand position, thanks to Isola Bio.

ColoRight was founded in 2002. It is based in Rehovot, Israel, and employs 50 people. The company is owned by a digital print pioneer, Benny Landa, who serves as Chairman, and its investors are reported to include Yair Goldfinger of Mirabilis/ICQ fame. ColoRight is an innovative developer of optics-based technologies for the beauty industry. It has created a fast, easy, and fail-safe hair color guidance system that enables both colorists and home users to achieve predictable, desirable hair coloring results ([www.yedamd.com](http://www.yedamd.com)). Using advanced light spectroscopy, the ColoRight system assesses the composition and relative amounts of pigmentation in an individual's hair. Computerized models determine the optimal hair color and coloring process that will yield the desired outcome without unnecessary damage to the hair. L'Oréal has acquired Coloright and announced that it will be a part of L'Oréal international research and innovation network ([www.lorealparisusa.com](http://www.lorealparisusa.com)). By means of this acquisition, L'Oréal reinforces its leadership in hair research.

## DISCUSSION

Almost half of US exporters have fewer than 50 employees. In the EU, SMEs represented 81% of the firms exporting outside the EU. These data attest to the will and interest of SMEs to globalize their activities. The situation is different in Latin America, where less than 10% of small firms and 12% of medium-sized enterprises participate in export activities, or in Japan, where 39.9 % of SMEs are not globalized.

In the US, Japan, Russia, and partially India, innovation-driven SMEs are the majority of high-performing SMEs. Therefore, in these countries, support for innovation in SMEs could improve the globalization process of SMEs.

In the UK, Germany, Canada, Italy, France, Brazil, China, and Mexico the efficiency-driven SMEs make up the majority of high-performing SMEs. Support for improved efficiency in SMEs by using more efficient resources, including labor, or by better adapting the product to the market, could improve their competitiveness in international markets.

Efficiency- and innovation-driven SMEs have a competitive advantage based on their ability to generate better value for customers. The case studies analyzed in this research show that various types of partnership in international markets are potential models that can improve the globalization process of efficiency- and innovation-driven SMEs.

In developing countries, factor-driven SMEs belong to the informal economy. Their global activities focus on cross-border trade and indirect export, in cooperation with MNCs. They could improve their international business activities by deeper specialization and higher cost-efficiency. Analysis of the selected factor-driven SMEs shows that their success in the international market is the result of coalitions that generate activities in common.

## CONCLUSION

The positive experience of factor driven SMEs in various environments is based on specialization and adaptation as a competitive advantage. For the efficiency-, and innovation-driven SMEs , the competitive advantage is based on relevant specialization and adaptation and coalitions.

Factor-driven SMEs have a choice between:

- contract marketing based on specialization and adaptation
- incubation processes
- export consortia
- cooperatives
- alliances

Efficiency- and innovation- driven SMEs can improve the value they offer by:

- creating unique product characteristics unprofitable to copy
- becoming part of business networks, product-region trademark coalitions establishing a strategic alliance based on uniqueness-specialization to gain competitive advantage

- being acquired and remaining independent (alliance by acquisition and local leadership) based on unique features
- being completely integrated by acquisition

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## IS ENTERPRISE SUCCESS A WOMEN'S TOPIC?

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### ABSTRACT

In the last years, in many European countries introducing a gender quota and thus increasing the number of women in corporate boardrooms was debated controversially. Some assume that without a gender quota the earnings of enterprises would shrink as male management teams do not work in such a harmonized and structured way. Others fear that a gender quota would be unfair and would not lead to a broad acceptance of women within their own enterprises and also in doing business with other companies. In this context, conducting research and analysing the impact of the women's presence in corporate boards on the success of companies appear as a necessity. The present article looks at the companies of EURO STOXX 50 and their success and tries to establish whether this success can be related to the percentage of female in management positions. The main question raised in this article is therefore, whether companies with a high gender quota are more successful and achieve a higher profit. The Earnings before Taxes (EBT) was chosen as a Key Performance Indicator (KPI) for this analysis, as this is a relevant and widely accepted profit figure.

**Keywords:** *Gender, performance, STOXX, women's quota*

### INTRODUCTION

The study in this article contributes to literature in the field of KPIs as success factors for a company and offers an insight into the relationship between the economic success of 50 European companies and the gender balance at management level. For this purpose the article builds upon existing literature in the field of performance management, diversity management, corporate governance, etc. Thus, the paper can help managers or business owners to gain a thorough understanding of the current business environment. The paper is structured as follows: the next section presents the literature review and introduces the hypothesis. Section three contains the research methodology. In section four the findings are discussed. Finally, section five develops insights for managers, shows the limitations of the study and offers suggestions for future lines of research.

## LITERATURE REVIEW

Women performance in management has been a controversial issue during the past decades. Many studies (e.g. Cooper, Gimeno-Gascon and Woo, 1994; Carter and Rosa, 1998; Fasci and Valdez, 1998) suggest that women in management positions are less effective than men in enhancing company outcomes. Fischer, Reuber and Dyke (1993) focused for example on gender differences in entrepreneurial performance of some 508 enterprises and identified in their study that men's businesses outperformed women's businesses in terms of number of employees, annual sales, annual income and productivity. Rosa, Carter and Hamilton (1996) analysed the impact of gender on small business performance in the United Kingdom (UK) and concluded that there are "some considerable differences by sex in quantitative economic and financial performance measures" (p. 476).

However, not all the studies dedicated to the analysis of gender impact on enterprise performance indicate that women managers perform worse than their male counterparts. Kalleberg and Leicht (1991) examined organizational performance in terms of survival and success and according to the results of their study, companies managed by women are not more likely to go bankrupt than those managed by men, while both men and women are equally successful with regard to earnings growth. In line with these findings are also those of Marco (2012), Alonso-Almeida (2013) and Johnsen and McMahon (2005), who emphasize that "consistent statistically significant differences in financial performance and business growth do not exist between female and male owner-managed concerns once appropriate demographic and other relevant controlling influences are taken into account" (p. 115).

What needs to be acknowledged is the fact that gender balance became a priority and diversifying corporate boards often represent a target to be achieved. In Norway, Italy, France, Spain and starting with 2016 also in Germany binding gender quota exist (Sullivan, 2015). The International Labour Organization (ILO) in its report from 2015 stresses that "more concerted efforts and advocacy are needed to share information on the benefits of utilizing women's talent and skills at all levels, including in the boardroom" (p. 4). Moreover, there are studies (e.g. Post and Byron, 2015) which argue in favour of greater gender diversity, as it was found that women on board have a positive effect on organizational excellence and financial performance. A complex study was conducted by McKinsey & Company (2007) by selecting 89 European listed companies which distinguished themselves by a high number of women in top management positions. The analysed KPIs were: return on equity (ROI), operating result (EBIT) and the stock price growth. On all these KPIs the companies with a high number of women on board ranked better than the average in their sector (McKinsey & Company, p. 13-14). Another exhaustive study, in which 2.360 companies from the Morgan Stanley Capital International All Country World Index (MSCI ACWI) were observed over a period of 6 years,



was conducted by the Credit Suisse Research Institute (2012) and it reached similar conclusions with those of McKinsey & Company.

The present research focuses on the companies of another index, namely the EURO STOXX 50, and aims at exploring whether there is a link between the EBT of these successful European companies and the number of women from their corporate boardrooms. The following hypothesis was formulated and will be tackled in the following sections:

H1: Enterprises which have a higher gender quota in management teams are more successful and achieve a higher EBT.

## **METHODOLOGY**

The EURO STOXX 50 Index was selected to represent the performance of the 50 largest companies among 19 supersectors. In total enterprises of 7 Eurozone countries are integrated in this index. This index has a fixed number of components and is part of the STOXX blue-chip index family. Moreover, EURO STOXX 50 index is one of the most liquid indices for the Eurozone and serves for benchmarking purposes. The index is a controlling index which ensures stable and up-to-date figures. It represents the performance of only the largest and most liquid companies in a sector (STOXX, 2016).

The following study was conducted at the beginning of the year 2016. Due to the fact that most of the 2015 annual reports of the EURO STOXX companies were not published at that point, it was decided to look at the index composition as it was at the end of the year 2014. Therefore, data was collected with regard to the 50 EURO STOXX companies, using on the one hand the information from the annual reports, and on the other hand information from financial websites. In order to examine how successful these companies are, the EBT was chosen as being a relevant KPI, taking thus into consideration the fact that companies may face different tax rates in different states. In other words, the lack of a harmonized taxation system across the Eurozone will not affect the results of this study, the EBT making possible a comparison of the 50 EURO STOXX companies at European level.

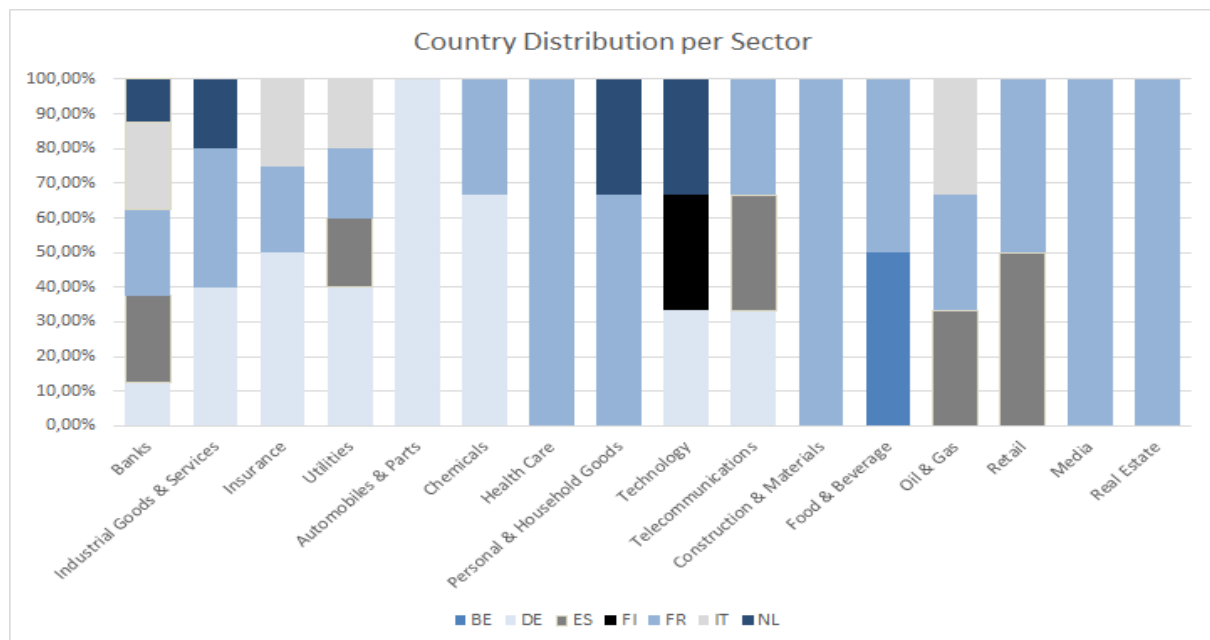
Number	Company's name	Sector	Country	Women on the Board	Earnings before Taxes (in Mio. EUR)	Employees total	EBT/Total no. of Employees (in thousands)
1	Air Liquide	Chemicals	FR	30,77%	2.399,20	50.300	47,70
2	AIRBUS GROUP SE	Industrial Goods & Services	FR	0,00%	2.373,00	138.622	17,12
3	ALLIANZ	Insurance	DE	7,69%	8.637,00	147.425	58,59
4	ANHEUSER-BUSCH INBEV	Food & Beverage	BE	7,14%	10.397,72	150.000	69,32
5	ASML HLDG	Technology	NL	0,00%	1.856,10	14.072	131,90
6	ASSICURAZIONI GENERALI	Insurance	IT	36,36%	2.829,00	78.333	36,12
7	AXA	Insurance	FR	35,71%	7.201,00	116.034	62,06
8	BASF	Chemicals	DE	11,11%	6.930,00	113.292	61,17
9	BAYER	Chemicals	DE	0,00%	4.538,00	118.888	38,17
10	BCO BILBAO VIZCAYA ARGENTARIA	Banks	ES	20,00%	3.637,00	108.770	33,44
11	BCO SANTANDER	Banks	ES	31,25%	10.436,00	185.405	56,29
12	BMW	Automobiles & Parts	DE	11,11%	8.052,00	116.324	69,22
13	BNP PARIBAS	Banks	FR	42,86%	2.741,00	187.900	14,59
14	CARREFOUR	Retail	FR	21,43%	1.973,00	381.227	5,18
15	DAIMLER	Automobiles & Parts	DE	12,50%	9.276,00	279.972	33,13
16	DANONE	Food & Beverage	FR	40,00%	1.839,00	99.927	18,40
17	DEUTSCHE BANK	Banks	DE	0,00%	2.497,00	98.138	25,44
18	DEUTSCHE POST	Industrial Goods & Services	DE	14,29%	2.572,00	488.824	5,26
19	DEUTSCHE TELEKOM	Telecommunications	DE	16,67%	4.548,00	227.811	19,96
20	E.ON	Utilities	DE	0,00%	-2.106,00	58.503	-36,00
21	ENEL	Utilities	IT	37,50%	-43,00	68.961	-0,62
22	ENGIE	Utilities	FR	41,18%	4.257,00	152.900	27,84
23	ENI	Oil & Gas	IT	22,22%	7.213,00	83.599	86,28
24	ESSILOR INTERNATIONAL	Health Care	FR	20,00%	1.176,00	58.032	20,26
25	GRP SOCIETE GENERALE	Banks	FR	42,86%	4.162,00	148.000	28,12
26	IBERDROLA	Utilities	ES	31,25%	3.066,36	29.597	103,60
27	Industria de Diseno Textil SA	Retail	ES	22,22%	3.052,70	137.054	22,27
28	ING GRP	Banks	NL	0,00%	3.223,00	53.000	60,81
29	INTESA SANPAOLO	Banks	IT	14,29%	2.669,00	89.486	29,83
30	L'OREAL	Personal & Household Goods	FR	40,00%	3.890,40	78.600	49,50
31	LVMH MOET HENNESSY	Personal & Household Goods	FR	23,53%	8.383,00	121.289	69,12
32	MUENCHENER RUECK	Insurance	DE	22,22%	2.782,00	43.316	64,23
33	NOKIA	Technology	FI	22,22%	-225,00	61.656	-3,65
34	ORANGE	Telecommunications	FR	26,67%	3.148,00	156.233	20,15
35	PHILIPS	Industrial Goods & Services	NL	11,11%	185,00	113.678	1,63
36	REPSOL	Oil & Gas	ES	22,22%	230,00	26.141	8,80
37	RWE	Utilities	DE	0,00%	1.882,00	59.784	31,48
38	SAINT GOBAIN	Construction & Materials	FR	9,09%	1.467,00	181.742	8,07
39	SANOFI	Health Care	FR	33,33%	5.731,00	113.496	50,50
40	SAP	Technology	DE	11,11%	4.355,00	74.406	58,53
41	SCHNEIDER ELECTRIC	Industrial Goods & Services	FR	14,29%	2.384,00	167.124	14,26
42	SIEMENS	Industrial Goods & Services	DE	20,00%	6.845,00	357.000	19,17
43	TELEFONICA	Telecommunications	ES	5,56%	4.145,00	120.497	34,40
44	TOTAL	Oil & Gas	FR	35,71%	7.691,23	100.307	76,68
45	UNIBAIL-RODAMCO	Real Estate	FR	16,67%	2.678,30	2.085	1.284,56
46	UNICREDIT	Banks	IT	21,05%	2.997,09	43.405	69,05
47	UNILEVER NV	Personal & Household Goods	NL	35,71%	7.548,00	172.000	43,88
48	VINCI	Construction & Materials	FR	33,33%	3.455,00	185.293	18,65
49	VIVENDI	Media	FR	0,00%	-89,00	15.571	-5,72
50	VOLKSWAGEN PREF	Automobiles & Parts	DE	0,00%	10.806,00	583.423	18,52

Figure 1: The 50 EURO STOXX companies in Europe are allocated in each country to different sectors  
(Source: own representation based on the information from: <https://www.stoxx.com/index-details?symbol=SX5E>)

## FINDINGS

Figure 1 above offers an overview of all the 50 EURO STOXX companies selected for this study, together with information regarding the sector in which they are active, their country of origin. Moreover, it can be seen that the 50 EURO STOXX companies in Europe are located only in 7 countries. In each country the EURO STOXX companies can be allocated to different sectors as presented in figure 2.

Figure 2: *The 50 EURO STOXX companies in Europe are allocated in each country to different sectors*



(Source: own representation based on the information from: <https://www.stoxx.com/index-details?symbol=SX5E>)

By looking at figure 2, it becomes clear for example that Finland has only one company in the EURO STOXX index and this is active in the 'technology' sector. By contrast, all German companies from the EURO STOXX index are active in the 'automobiles and parts' sector. This does not mean that there are no companies in France which produce automobiles and parts, only that those companies are not part of the EURO STOXX index. The French companies which are present in the EURO STOXX index prevail especially in the following sectors: health care, construction, media and real estate.

Moreover, most EURO STOXX companies are located in France (19) followed by Germany (14), Spain (6) and Italy (5). The Netherlands has four companies in the EURO STOXX index, while Belgium and Finland have only one big company.

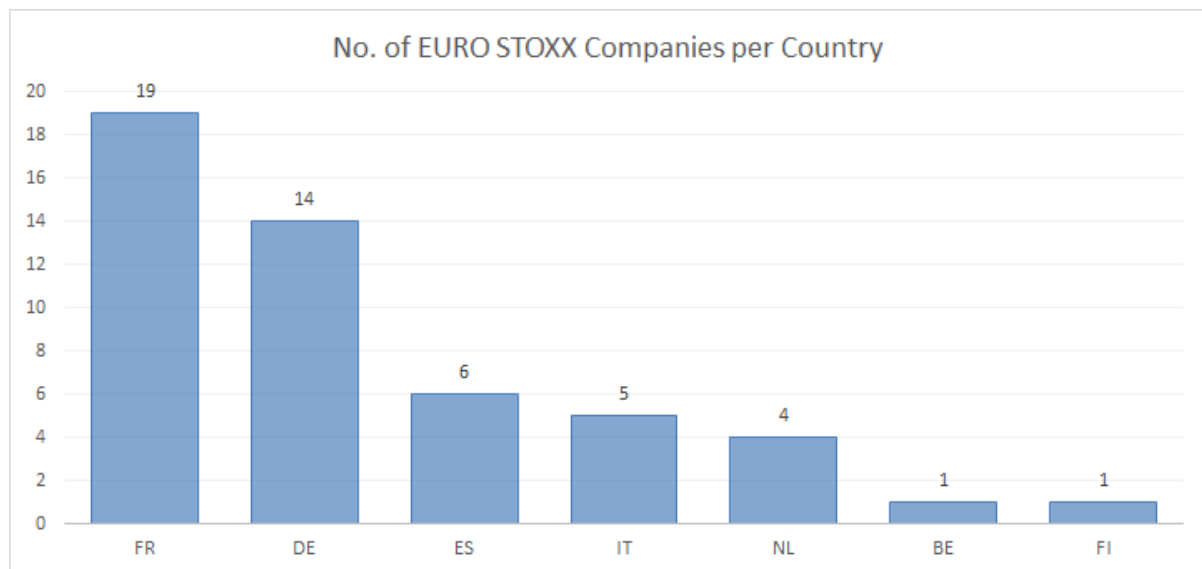


Figure 3: Number of EURO STOXX companies per country (Source: own representation based on the information from: <https://www.stoxx.com/index-details?symbol=SX5E>)

In order to test the raised hypothesis (H1: Enterprises which have a higher gender quota in management teams are more successful and achieve higher EBT), two steps are necessary. In a first step, the EBT and the EBT / employee of the selected companies should be examined. In a second step, the gender quota per sector and in total should be analyzed and the findings should be brought together.

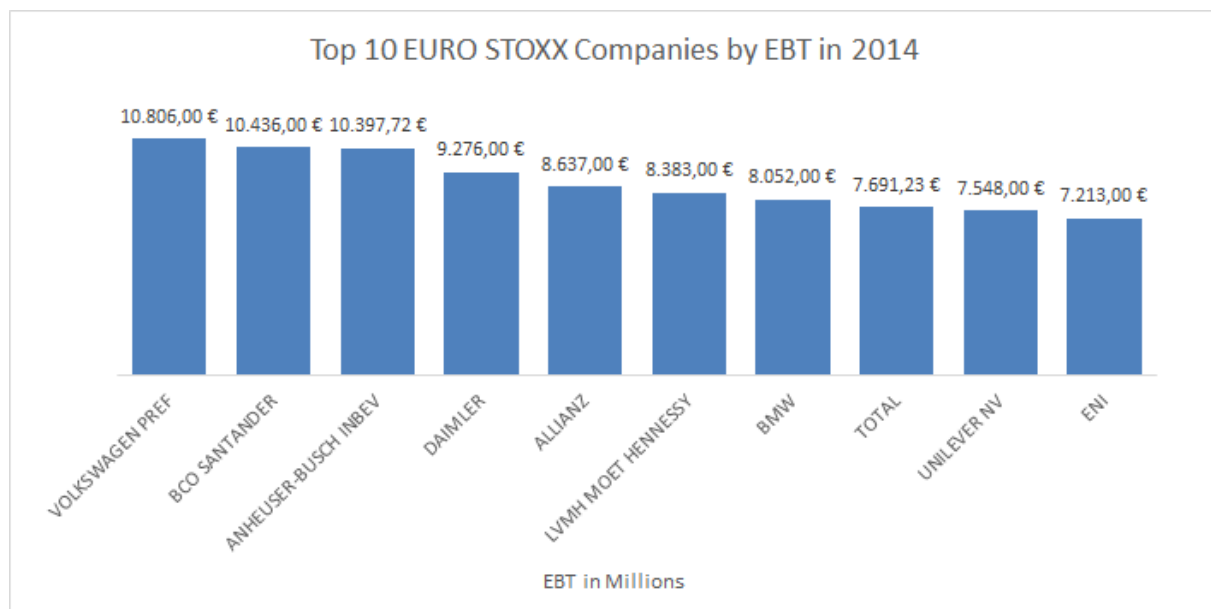


Figure 4: Top ten STOXX companies by EBT with figures of 2014 (Source: own representation – the EBTs of all the 50 companies were taken from <http://www.finanzen.net/> - retrieval date: 02/19/2016)

Figure 4 shows a top 10 ranking of the EURO STOXX companies according to their EBT in 2014: Volkswagen (Germany) with €10,8 million recorded the highest EBT of all the companies analysed in this study, followed by BCO Santander (Spain) - €10,4 million and Anheuser Busch Inbev (Belgium) – approximately €10,4 million.

If by now the emphasis was on offering a broad insight on the EURO STOXX companies, also presenting key figures such as the EBT, in the following section the focus will be on completing this insight by introducing also the information on gender quotas as found in the annual reports of the EURO STOXX companies. In this respect, figure 5 shows the percentage of women in management position at country level. In only two countries the women quota is higher than 25%: France and Italy. By contrast, the women quota in both Germany and Belgium is under 10%: 9% and respectively 7%.

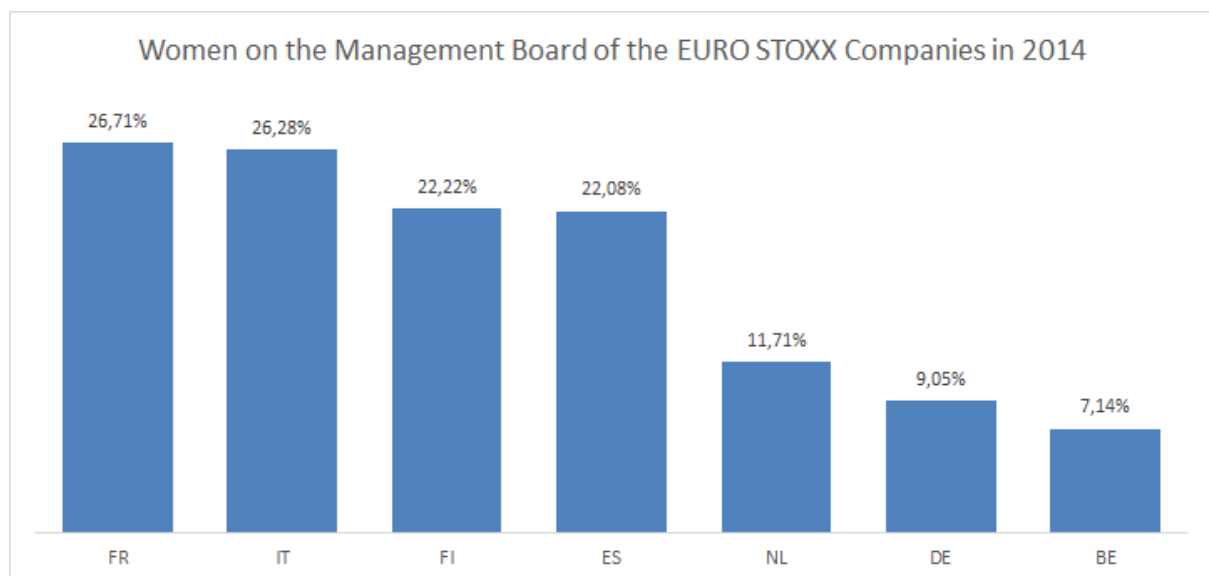


Figure 5: Number of women in the management board of EURO STOXX companies in 2014 in different countries

(Source: own representation – the information with regard to the number of women on the management board was extracted from the 2014 annual reports of the respective companies)

However, the number of women in the management board depends often on the sector. Figure 6 displays a top 5 ranking of the sectors according to women' presence in management positions. The question could be raised whether these are sectors in which women are traditionally present.

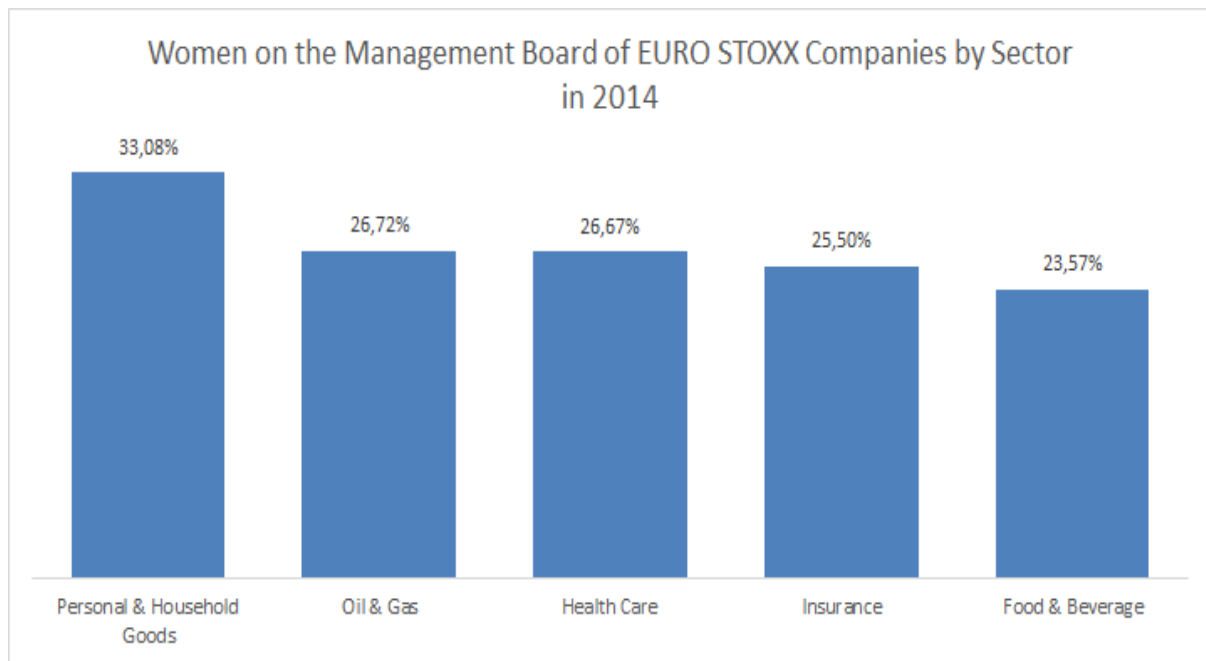


Figure 6: Womens' quota in the management board in STOXX companies in 2014 in different sectors (Source: The information with regard to the number of women on the management board was extracted from the annual reports of the respective companies end of 2014)

As it can be seen, there are 33% women in the management board of companies that are active in the 'Personal and Household Goods' sector and there are 27% women in the management board of companies active in the 'Oil and Gas' sector. Health care companies have a women quota of approximatively 27%, insurance companies of almost 26% and food and beverage companies have a women quota of nearly 24%.

Finally, the next figure presents the first three sectors which have the highest women quota per country.

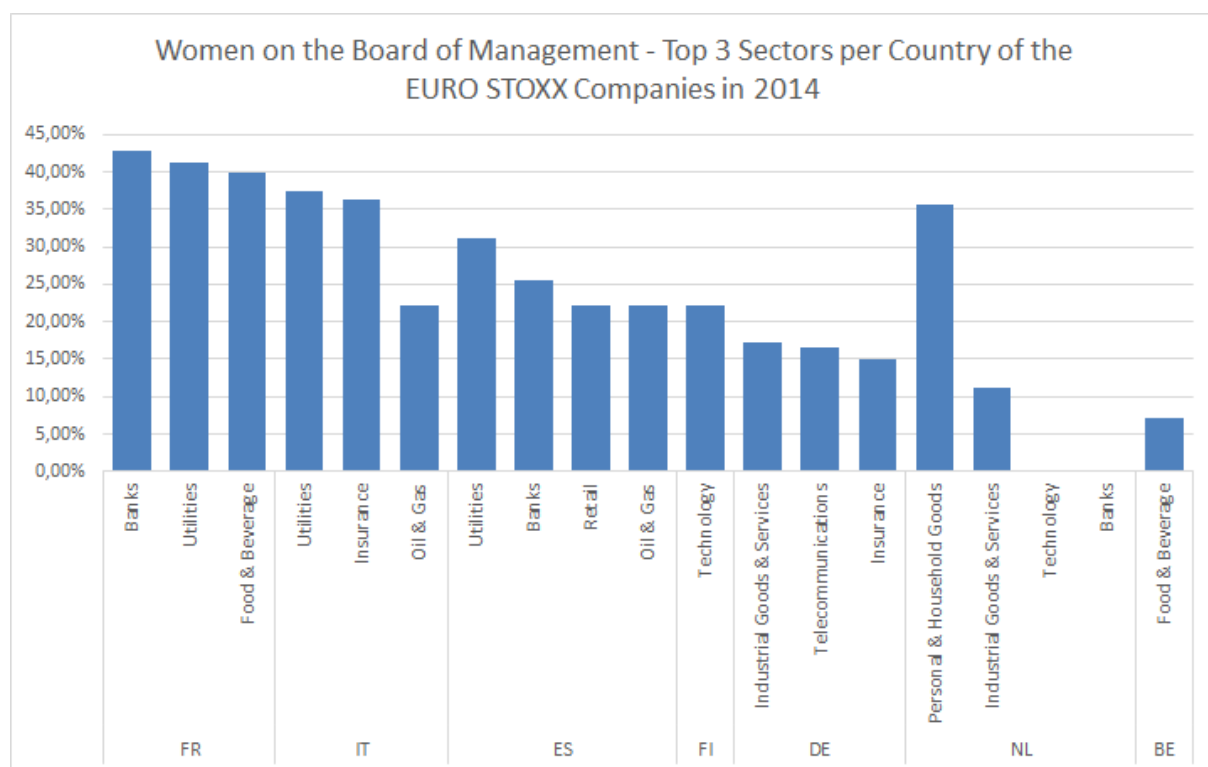


Figure 7: Number of women in the management board in STOXX companies in 2014 in the Top three sectors of each country (Source: own representation – the information with regard to the number of women on the management board was extracted from the 2014 annual reports of the respective companies)

It can be stated that the women quota is high especially in traditional branches such as 'Personal and Household Goods' and lower in new technology branches such as 'Telecommunication' or 'Industrial Goods and Services'. This result is significant over all countries.

If the countries with the highest number of companies in the EURO STOXX index are compared, namely France and Germany, a lot of differences can be identified. In France, the women quota in 'Banks' is 43% compared to 'Utilities' with 41% and 'Food and Beverage' companies with 40%. In Germany, the highest women quota is reached in companies from the 'Industrial Goods and Services' and 'Telecommunications' sectors with 17% and in insurance companies with 15%. The women quota in Germany is therefore much lower and the sector 'Automobiles and Parts' in which Germany makes high profits is not even mentioned under the three most important branches when the women quota in management boards of the EURO STOXX companies is measured.

For this reason, hypothesis 1 cannot be verified. Germany has the most successful companies in terms of EBT but has a women quota of only 9%. In opposition to it, France has a higher concentration of women in management positions (27%) as well as a higher number of companies in the EURO STOXX

index, but these companies are less successful than the German companies in terms of EBT. Therefore, no positive correlation seems to exist between a higher EBT and a higher women quota in management boards. This is shown also in figure 8 which displays the relationship between the EBT and women quota of all the 50 EURO STOXX companies.

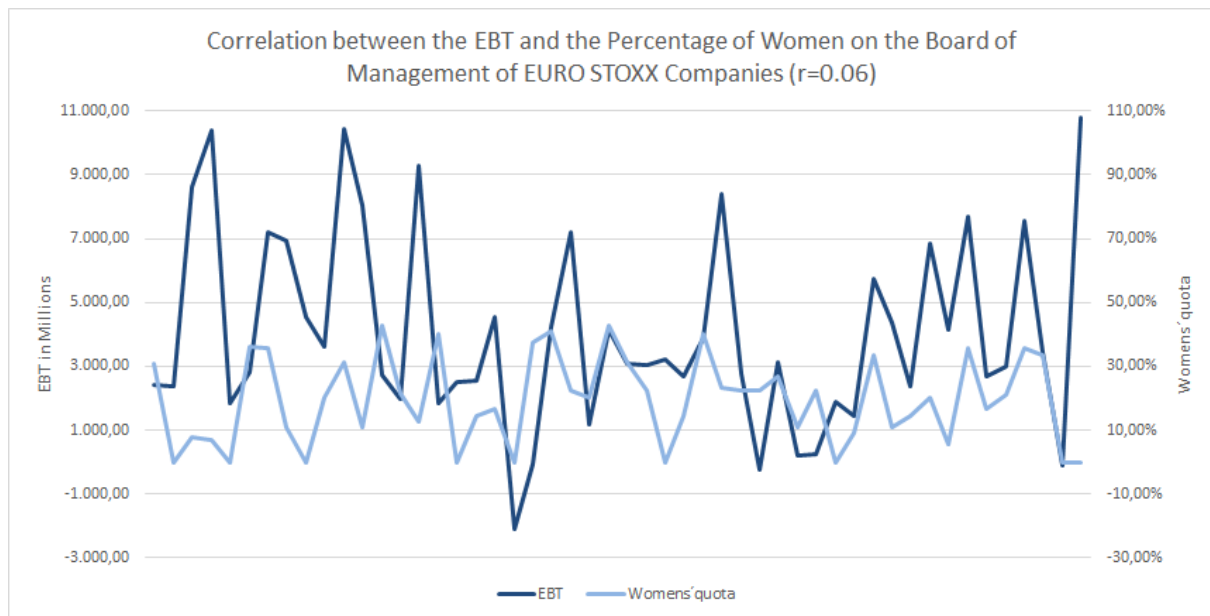


Figure 8: *No positive correlation between the EBT value and the women quota in Management Boards*  
(Source: own representation – the information with regard to the number of women on the management board was extracted from the 2014 annual reports of the respective companies)

One possible explanation for these findings could be the fact that in the correlation analysis above, one absolute KPI like the EBT and one relative KPI like the women quota were measured with all their heterogeneous differences. To improve this and to possibly obtain a better correlation coefficient, the EBT is measured per employee and used in the correlation as a relative figure too. The results of the second correlation analysis are shown in figure 9.



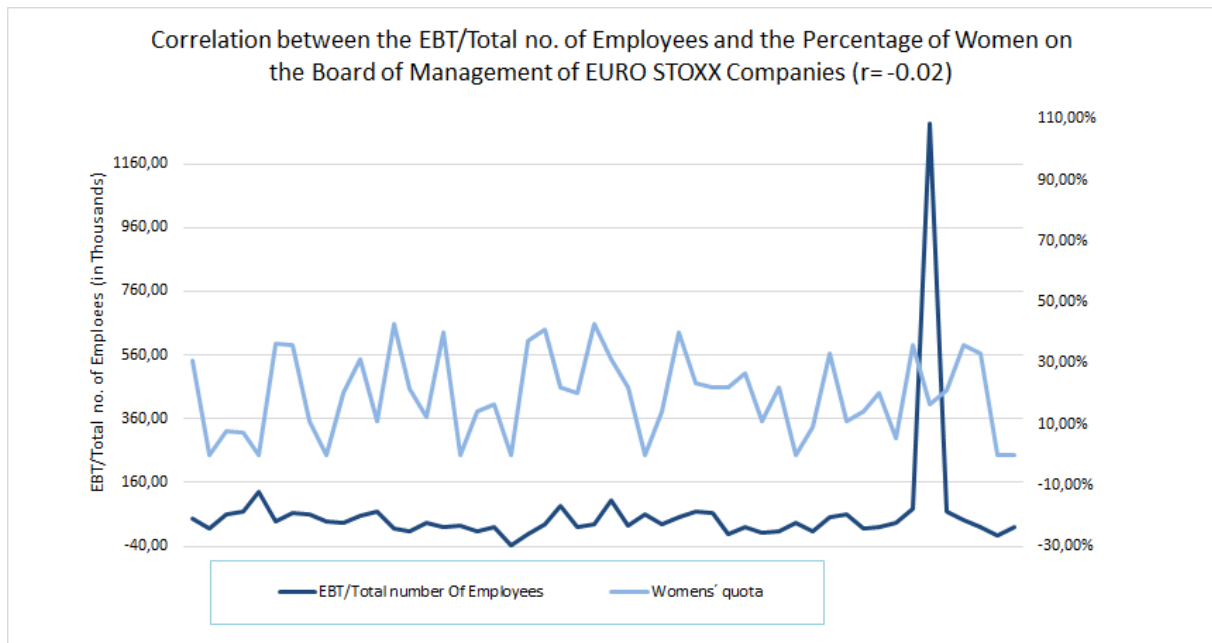


Figure 9: No positive correlation between the EBT/Total numbers of employees and the womens' quota in Management Boards (Source: own representation – the information with regard to the number of women on the management board was extracted from the 21014 annual reports of the respective companies)

As it can be seen, the second correlation analysis did not lead to different results even though relative KPIs were employed.

## DISCUSSION OF RESULTS AND CONCLUSIONS

As the statistical analysis of the previous section has shown, hypothesis 1 (H1: Enterprises which have a higher gender quota in management teams are more successful and achieve a higher EBT) cannot be supported.

Nevertheless, these findings should be treated cautiously. They do not imply that women in management positions are less effective than men. Additional research is needed to shed more light on this issue. Another type of information should be included in future research, such as women position, experience, educational background, etc. All these aspects could provide a more realistic image regarding the role of women in company performance.

Moreover, as presented in the literature review, female participation in management boards shows mixed results with regard to company performance. Therefore, a more holistic approach is needed, researching not only the figure of women on board but also considering women participation in total workforce, industry sectors, etc.

The study has several limitations that can be overcome with future research. EBT as a performance indicator provides only a rough approximation of company success, a combination of indicators could provide better results. Moreover, depending upon the country of residence of the company, the board structure differs (Anglo-Saxon one-tier board versus Germanic two-tier board system). Thus, a comprehensive indicator has to be found that identifies only those women, which are actually able to influence company decisions. Furthermore, since earlier research has shown that long-term studies provide different results, this research could be corroborated with a long term research.

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# THE RESULT OF ADMINISTRATION AND THE FISCAL YEAR RESULT: EVIDENCE FROM THE ACCOUNTING EXPERIMENTATION IN ITALIAN LOCAL AUTHORITIES

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## ABSTRACT

The harmonization of the accounting systems and the public financial statements represents a necessity to achieve the coordination of public finance. This has as its main objective the improvement of the information provided to the stakeholders by accounting data regarding the public administration's management. The public administration's accounting harmonization process and the necessity to have available a homogeneous set of information, able to provide comparable accounting data, can be fully considered as part of the process of managerialization of the public sector known as New Public Management.

In Italy, the current accounting reform in local governments places accrual accounting side by side with cash accounting for informative purposes, but the latter one remains the main accounting system for authorization purposes. To support gradualness of reform and evaluate on the field its possible effects, the legislator established a three-year pilot period of experimentation of the new accounting regulations in some local authorities, starting in 2012. Through the analysis of the experimental financial statements, this work aims to investigate and compare the information value of two important results of local authorities' management: the result of administration, i.e. the traditional summary value of the financial management of a local authority, and the fiscal year result, i.e. the new value that expresses the economic management of a local authority. Evidence demonstrates the importance of the analysis carried out with the combined use of data.

**Keywords:** *New Public Management, accounting harmonization, local authorities.*

## INTRODUCTION

The harmonisation of the accounting systems and of the public financial statements is a necessity in order to achieve the coordination of public finance, both at international and national level. The EU requires member states i) to adopt uniform systems for public accounting suitable for the consolidation of public accounts and ii) to provide general overviews through the elaboration of consistently

developed data responding to the same standards. The current reformation process has indeed established rules, uniform accounting standards and financial statement templates shared throughout the public administration as a means to achieve the so-called “accounting harmonisation”.

In Italy, the government’s limited ability to explain the operating conditions of the public sector and to bring about focused and incisive actions has been evidenced in many instances (D’Alessio, 1992; Zangrandi, 1994; Borgonovi, 1995; Valotti and Zangrandi, 1996; Caperchione, 2000; Manes Rossi, 2002; Steccolini, 2004; Farneti, 2006). The accounting harmonisation for Italian local governments is part of the wider project of reformation of public accountancy; it also falls under the federal reformation. With reference to the local authorities, a three-year pilot project involving the adoption of the new accounting regulations has started to verify the practical correspondence of the new accounting system to the informative needs of public finance. During the pilot project, the local authorities were involved in the application of an ‘enhanced’ cash accounting, for authorisation purposes, as well as accrual accounting, for informative purposes.

In this context of reference, this research intends to analyse and compare the different informative contribution provided by two important management results for local authorities: the *result of administration*, namely the traditional indicator of an entity’s financial management, and the *fiscal year result*, the new indicator expressing the result of the economic management. The relevant research questions are: (RQ1) What is the new role played by the above-mentioned management results? (RQ2) In what way can these results be compared and analysed jointly?

## BRIEF LITERATURE REVIEW

The public administration’s accounting harmonisation process and the need for a homogeneous informative set capable of providing comparable accounting data can be fully considered as part of the process of “managerialization” of the public sector, known as New Public Management (Hood, 1991; Hood, 1995). This necessity is perceived both at national (D’Alessio, 2012; Anselmi *et al.*, 2012) and at international (Caperchione, 2012) level. Over the years, many countries have shifted from cash-based to some form of accrual-based accounting in the public sector (Pina and Torres, 2003) taking the European (EPSAS) and International (IPSAS) Public Sector Accounting Standards as a reference.

In Italy, the current accounting reformation for local authorities places accrual accounting side by side with cash accounting for informative purposes, but the latter remains the main accounting system for authorisation purposes. Cash-based accounting was for years the typical accounting information tool for the public sector. Its authorisation function, and namely the possibility of making expenditure decisions as and when the related funds are available, has represented a management logic whose pros and cons have fuelled academic debate (Mussari, 1996; Caperchione, 2000; Borgonovi, 2002; Anessi

Pessina, 2005). The traditional indicator of financial management is called “risultato di amministrazione” (henceforward result of administration) and it represents the balance between the wealth that the local authority levies by virtue of its powers and the wealth it uses to exert its functions (Borgonovi, 2005). The surplus of administration represents an important source for investment-funding policies of local authorities, while the deficit of administration is the amount of liabilities the local authority urgently needs to cover as a strong priority in the following years. However, theory and practice are unanimous in claiming that a sizeable surplus of administration may indicate poor management of public resources by the local authority; indeed, if it is not accompanied by a corresponding increase in the services offered to the citizens, this may result from excessive fiscal pressure (Biondi, 2013). Furthermore, the result of administration presents informative limits inherently connected with the variability of residuals (Rossi and Fontana, 2008, 2009). The accounting reformation being undertaken by local authorities attempts to overcome such criticalities through an “enhancement” of the cash accounting principle, according to which legally effective obligations are included in the operating accounts in which they arise, but they are recorded in the accounting year in which they expire.

Accrual-based accounting has different purposes, scope, methods and criteria. The introduction of accrual accounting in the public administration for informative purposes (as in the case of Italian local authorities) or for authorisation purposes (as in the case of Italian universities) is a topic of great interest, debated by many Italian (Anessi Pessina and Steccolini, 2001, 2007a) and foreign scholars (Guthrie, 1998; Carnegie and West, 2003; Carlin, 2005; Van Der Hoek, 2005; Paulsson, 2006; Lapsley *et al.*, 2009). This accounting system aims to determine the two values representing equity and income. Regarding the latter, the result of the experimental profit/loss account, named “risultato dell’esercizio” (henceforward fiscal year result), represents for local authorities a new value expressing the result of their economic management. This value means something different for private and public entities. While in the former a positive fiscal year result expresses the company’s ability to generate profit available to remunerate the capital and/or for self-funding purposes, in the latter a positive fiscal year result protracted over several years may indicate excessive fiscal pressure on the relevant community as compared with the services effectively provided (Grandis and Mattei, 2012).

The existence of several studies on the accounting reformation of local authorities focusing on a single country (Christiaens, 2003) or adopting a comparative international approach (Pina, *et al.*, 2009; Caperchione and Mussari, 2000) denote the salience of the topic. With particular reference to Italy, some empirical research on local authorities has been carried out (Buccoliero *et al.*, 2005; Anessi Pessina and Steccolini, 2007b; Bracci, 2007; Mazzotta, 2012), although not many studies focus on the recent accounting experimentation (Fanelli and Ferretti, 2014). While the analysis of the relationship between

the information provided by the result of administration and that of the fiscal year result has been partly investigated at a theoretical level (Mulazzani, 2002), at present there are no empirical studies comparing the two results.

## RESEARCH METHODOLOGY

A quantitative empirical analysis grounded on the examination of the experimental financial statements has been adopted as research method.

The survey has been carried out with specific reference to the following aspects: (i) analysis of the result of administration; (ii) analysis of the fiscal year result.

The result of administration values have been gathered from the experimental financial statements for the years 2012, 2013 and 2014, while the fiscal year result values are from the experimental financial statements for 2013 and 2014 (the income statement was not a compulsory document in 2012). The total population of the Italian local authorities forming part of the pilot project in the period 2012-2014 has changed over years, following refusals and exclusions during the accounting experimentation. The original figure of 68 municipalities, chosen by the Government on the basis of their geographic position and population size, was then reduced to 49 (out of the about 8,000 Italian municipalities).

The sample used in this study is composed by the municipalities with the following characteristics: (i) have participated to the pilot project for accounting harmonisation throughout the period; (ii) have a population of over 20,000 people (since they have a more complex organizational structure and can provide a more complete representation of the accounting experimentation effects); (iii) both the experimental financial statements and the income statement were available at the time of this study. The sample ultimately results in 20 local authorities (out of 49, about 40%), henceforward EL 1-20. Their accounting data have been gathered and analysed for this research. Evidence provided in this work cannot and does not want to be generalized to the totality of Italian local authorities, to which the new accounting regulations are applied since 1 January 2015 (with the possibility to postpone the introduction of accrual accounting to 1 January 2016). However, this paper represents an important starting point for future in-depth analysis when the new accounting system has been rolled out at national level and more data is available.

## FINDINGS

### *Analysis of the result of administration*

The result of administration (RA) in a financial statement represents the result of a local authority's financial management; it can be considered a fund or a flow (Rota *et al.*, 2012). The result of

administration depends on the amount of asset and liability residuals. The asset and liability residuals represent credits and debts of a municipality towards third parties (or rather, revenues verified in the fiscal year of competence but not yet received and expenses already in the books, which have not yet been paid for). The result of administration is not considered as a safely determined valued, as it is composed of items such as asset and liability residuals, which can be respectively over and underestimated (D'Alessio *et al.*, 2015). In order to stabilise this result to an extent, the accounting reform established the obligation to allocate a quota of the result of administration to the fund for doubtful receivables. The value allocated to this fund is restricted; it is determined based on the doubtful receivables, respecting the principle applied in financial accounting; its purpose is to avoid the use of doubtful receivables as a source for expenditure. The introduction of a procedure whose purpose is to determine the amount to be allocated to the fund for doubtful receivables has had important consequences on the result of administration of local authorities part of the pilot project, sometimes bringing to the surface unexpected deficits. The analysis of residuals is of great importance for the determination of the result of administration for entities adopting the new accounting standards. This analysis is carried out through the ordinary and extraordinary re-assessment of residuals. The operation of extraordinary re-assessment of residuals and the application of the principle of enhanced financial accrual can bring about important effects on the result of administration. The first effect derives from a different temporal redistribution of residuals, which are attributed to the financial year of reference or to following years, based on their expected date of fulfilment. The temporal mismatch between income and expenditures may determine: (i) a technical deficit or (ii) a technical surplus. The second effect on the result of administration can be attributed to the allocated sum for the fund for doubtful receivables; this can bring about a "real" deficit (Simeone, 2013). The value allocated to the fund and the consequent impact on the result of administration will depend on the evaluation criteria adopted in the past for a sound management. This value will be high if, prior to the accounting reformation, a high amount of doubtful receivables with a low rate of credit recovery has been maintained in the accounts. From the analysis of the local authorities' financial statements, the adaptation of residuals to the new principle of enhanced cash basis appears to have brought about a reduction of liability residuals and, to a lesser extent, of asset residuals in 2012 and 2013. The local authorities subject to this investigation have recorded a slight reduction in the result of administration for 2013 compared with 2012 (-0.30%) and an interesting increase in 2014 compared with 2013 (17.7%) – (Table 1).

Municipality	Var. % (2013-2012)	Var. % (2014-2013)
EL1	82.23	9.49
EL2	46.74	66.32
EL3	81.76	13.61
EL4	44.54	41.17
EL5	3.27	78.56
EL6	3.53	40.08

EL7	42.69	-4.11
EL8	16.10	645.78
EL9	-14.33	47.26
EL10	22.92	5.45
EL11	-58.79	230.56
EL12	-35.14	-218.61
EL13	119.68	51.39
EL14	-14.81	120.56
EL15	-53.00	17.12
EL16	58.83	-15.46
EL17	1.80	4.84
EL18	34.51	13.34
EL19	38.93	18.47
EL20	-7.53	17.89
Total	-0.30	

Table 1. Yearly variation (2013-2012 and 2014-2013) of the result of administration (RA) per municipality

Nevertheless, some criticalities emerge from the analysis of the result of administration's composition for some local authorities, as the allocation of the fund for credit risk (renamed fund for doubtful receivables) may be the cause of a real deficit (Table 2), represented by (E), namely the available part of the result of administration.

Municipality	E 2012 (in €)	E 2013 (in €)	E 2014 (in €)
EL4	4.642.543.21	5.810.166.74	4.688.388.31
EL6	7.020.728.01	6.672.365.82	4.959.105.31
EL7	-	724.011.38	3.182.899.79
EL8	975.987.72	492.655.02	201.550.00
EL18	9.891.103.58	-	-
EL16	-	-	-
EL3	67.843.97	12.222.33	6.314.248.71
EL5	1.078.170.45	1.933.487.99	1.174.599.04
EL1	2.023.411.89	24.069.40	39.519.143.67
EL19	5.343.030.75	5.942.740.25	20.347.150.99
EL2	207.134.55	100.000.00	734.474.99
EL13	9.717.969.24	149.525.33	54.905.80
EL20	3.443.650.00	-	19.314.767.01
EL15	-	-	-
EL9	5.165.980.23	3.695.535.95	4.550.921.14
EL12	-	4.285.425.22	50.219.246.62
EL14	N/A	520.286.31	2.547.229.71
EL10	4.216.247.98	13.178.596.41	8.235.396.86
EL17	319.734.19	-	- 72.757.557.03
EL11	2.334.239.87	1.792.815.40	4.354.592.48

Table 2. Total available part of the result of administration (E) for the year per local authority

It can be observed that this operation reduces considerably the available part of the result of administration, in some cases annihilating it, like in the cases of entities EL15 and EL16. The potential deficit brought about by the application of the new accountancy regulations is covered with constant instalments over a maximum of 30 fiscal years.

#### *Analysis of the fiscal year result*

This section deals with considerations deriving from the analysis of the profit/loss accounts for 2013 drawn up by the local authorities part of the pilot project, and with the following comparison with the same data for 2014. The scalar configuration currently adopted enables readers to quickly identify the different areas of management, highlighting the results of the core, financial and extraordinary management.



The *fiscal year result* (FYR) is the indicator of the full management of an entity, and it expresses the comprehensive economic performance in the management for the specified period. Based on this indicator, a preliminary judgment can be expressed on the performance in said year. The indicator measures the increase/decrease in equity resulting from the entity's management (D'Alessio *et al.*, 2015). A first income indicator is the ROE (Return on Equity), which expresses the profitability of the net equity, i.e. the entity's own resources. This indicator is given by the ratio between the net economic result and the net equity. Therefore, the ROE does not consider the positive or negative effects of financial, extraordinary and fiscal management. In 2013, two of the entities under investigation show a negative ROE, while for the remaining municipalities this indicator is between 0 and 8% (Figure 1).

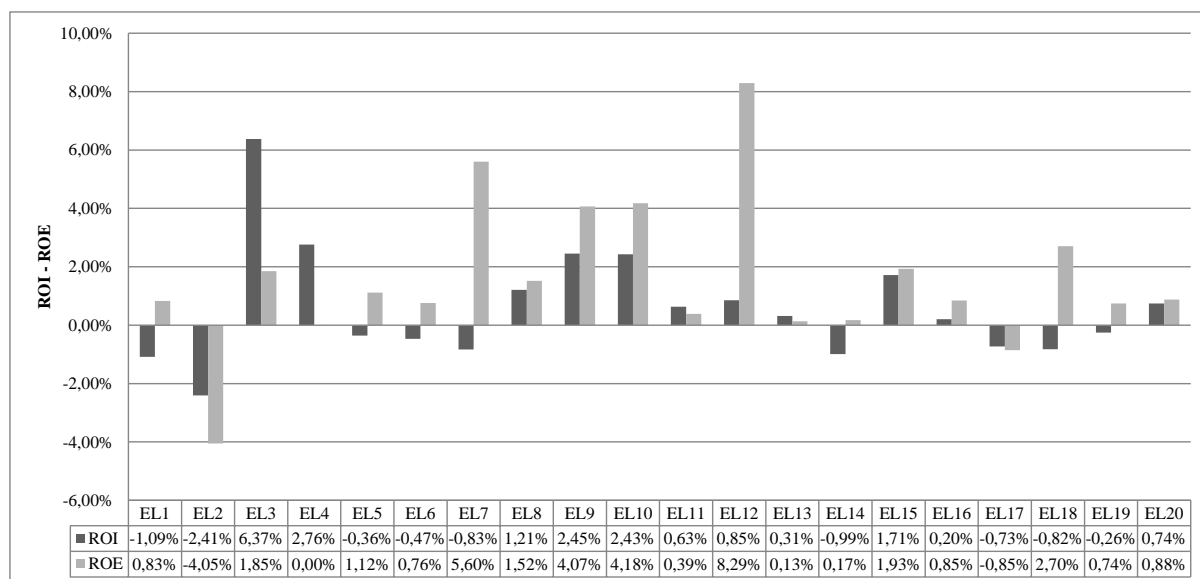


Figure 1– Profitability indicators

However, the indications obtained from the ROE need to be investigated in further depth, analysing the “partial” economic results for specific areas of management as well as individual items which are particularly significant in the profit/loss account. The result of the main area of activity of an entity is the *result of the core management* (operating result); it is the first result in the profit/loss account, and it is given by the difference between positive and negative components of operational management. It enables an evaluation of the management of the public services provided by the entity free from the economic effects of extraordinary financial income and charges. The result of core management is therefore connected to the production, institutional and so-called ‘individual demand’ services. The indicator which expresses the profitability of the core activities is the ROI (Return On Investment); this represents the profitability of the total equity deployed by the entity, and it is given by the ratio between the operational result and the total invested equity. The financial statement analysis for 2013 of the municipalities part of the pilot project evidences how this indicator is always rather low, and goes into negative territory for 9 entities out of 20 (45%). Indeed, the ROI is comprised between -2.4 and

2.6%, with the only exception of one municipality whose ROI is 6.3% (Figure 1). It is important to underscore that municipalities are public entities, and therefore they are not for profit. Their purpose is to guarantee a level of public service of adequate quality for their stakeholders through the optimal use of the available resources. In other words, the economic balance is a commitment rather than a goal. It is therefore realistic to assume that the value of net income should be close to nil. Indeed, negative values would indicate a lack of economic balance, whereas positive values would point towards a surplus of resources which are not effectively and efficiently used for the achievement of institutional goals. In light of the above, the 2 entities with a net profitability below zero represent very peculiar cases, but the same could be said for the opposite situation applying to 4 local authorities with a ROE between 4 and 8%. As commented on previously, the operating result for 2013 is negative for 9 out of 20 entities. Nevertheless, for 8 of those authorities the positive result of extraordinary management leads to a positive net result.

It is now important to verify if and how the fiscal year result of entities in the sample varied in the following year (Table 3).

Municipality	FYR 2013 (in €)	FYR 2014 (in €)
EL 1	734,771.14	1,594,672.97
EL 2	4,878,881.10	2,278,798.72
EL 3	2,804,706.00	1,408,689.54
EL 4	1,904.92	2,376,734.07
EL 5	24,784,071.77	2,636,248.86
EL 6	12,871,548.38	34,670,767.31
EL 7	752,954.87	132,286.70
EL 8	1,539,541.15	1,325,938.55
EL 9	3,374,553.35	7,349,831.30
EL 10	93,096,431.55	25,794,190.93
EL 11	203,066.81	1,200,938.79
EL 12	49,757,627.07	5,942,378.41
EL 13	9,184,069.64	37,844,864.32
EL 14	2,578,557.23	2,759,914.39
EL 15	4,419,483.28	3,178,859.41
EL 16	3,438,988.33	53,401,848.27
EL 17	7,169,296.36	284,771.81
EL 18	8,575,644.03	1,459,671.37
EL 19	6,092,380.01	113,307,527.45
EL 20	5,751,462.44	4,378,991.83

Table 3. comparison between 2013 and 2014 fiscal year results

The municipalities showing a negative fiscal year result (and therefore a negative ROE) go from 2 to 6 in 2014. Comparing the two periods, it emerges how in 2014 the results of economic management worsen for the majority of municipalities (70%). At this point it is legitimate to wonder about the reasons behind this general worsening. Analysing in detail the profit/loss accounts of the municipalities showing the worst economic performances (in that they moved from a positive result in 2013 to a negative value in 2014), it can be observed how all such entities (EL 6, EL 9, EL 13, EL 16, EL 19) have seen a considerable worsening of their core management result. This is due in particular to the increase of negative economic components, as well as to the result of financial management. This phenomenon is connected to the decrease of financial income and the increase of financial charges. Furthermore, with the exception of one municipality, which saw an improvement in their extraordinary management, all remaining entities moved from a positive to a negative extraordinary management result.

## DISCUSSION AND CONCLUSIONS

While the result of administration and the fiscal year result, as discussed, are very different in terms of their informative value (RQ1), the joint examination of the two indicators can form the basis for a few important considerations (RQ2) (Table 4).

Municipalit	RA 2013 (in €)	FYR 2013 (in €)	RA 2014 (in €)	FYR 2014 (in €)
EL 1	10.989.026.61	734.771.14	15.513.429.75	1.594.672.97
EL 2	11.256.457.53	4.878.881.10	15.768.374.40	2.278.798.72
EL 3	7.686.949.41	2.804.706.00	7.371.029.81	1.408.689.54
EL 4	2.816.915.31	1.904.92	21.007.976.34	2.376.734.07
EL 5	131.460.566.92	24.784.071.77	148.999.435.61	2.636.248.86
EL 6	76.725.112.58	12.871.548.38	64.861.420.98	34.670.767.31
EL 7	11.065.845.04	752.954.87	12.571.946.61	132.286.70
EL 8	2.165.230.50	1.539.541.15	3.866.316.08	1.325.938.55
EL 9	9.581.836.35	3.374.553.35	10.490.725.03	7.349.831.30
EL 10	177.526.315.15	93.096.431.55	210.308.771.32	25.794.190.93
EL 11	2.650.859.09	203.066.81	4.408.898.72	1.200.938.79
EL 12	33.217.771.68	49.757.627.07	50.287.285.43	5.942.378.41
EL 13	1.470.706.960.45	9.184.069.64	1.733.867.928.70	37.844.864.32
EL 14	28.458.743.02	2.578.557.23	33.331.527.46	2.759.914.39
EL 15	26.132.428.65	4.419.483.28	38.483.582.88	3.178.859.41
EL 16	4.670.012.86	3.438.988.33	5.538.877.25	53.401.848.27
EL 17	15.575.550.91	7.169.296.36	34.353.963.66	284.771.81
EL 18	45.131.626.81	8.575.644.03	47.589.693.95	1.459.671.37
EL 19	138.300.081.13	6.092.380.01	144.995.558.76	113.307.527.45
EL 20	1.902.315.60	5.751.462.44	6.288.244.69	4.378.991.83

Table 4. Result of administration (RA) and fiscal year result (FYR)

As a first point of discussion, the two indicators can bring about four potential scenarios: (i) both indicators are positive; (ii) both indicators are negative; (iii) there is a surplus of administration accompanied by a negative economic result; (iv) there is a deficit of administration accompanied by a

positive economic result. From the analysis of the sample, only two of the specified scenarios can be observed in 2013, given that all municipalities have a positive result of administration (Table 5).

		FYR	
		+	-
RA	+	18 ELs	2 ELs
	-	/	/

Table 5. Matrix of the relationships between result of administration and fiscal year result (2013)

whereas in 2014 results were both negative for one municipality (Table 6).

		FYR	
		+	-
RA	+	14 ELs	5 ELs
	-	/	ELs

Table 6. Matrix of the relationships between result of administration and fiscal year result (2014)

In the majority of cases, a surplus of administration accompanies a positive fiscal year result. This means that, from the financial point of view, the municipality is endowed with more resources than those necessary to carry out its administrative activity. At the same time, from an economic perspective, the negative components (which measure the use of productive factors in the management activity) are lower than the positive components (prevalently represented by taxes, funds, transfers and income from sales of goods and services). If this situation does not change over time, it would be wise to investigate the level of achievement of the municipality's institutional goals, and if its stakeholders are satisfied. If this was not the case, the above-mentioned indicators would point towards a situation in which there is a lack of administrative effectiveness. The unexploited resources could indeed be invested in the improvement of the services offered, both from a quantitative and qualitative point of view. Vice versa, if the institutional goals are adequately achieved, the authorities should investigate the possibility of reducing the fiscal pressure imposed on the relevant community.

Only two cases in 2013 and five in 2014 saw a surplus of administration correspond to a negative economic result. This is possible given that, following the accrual principle, income and expenditures relevant to a certain period are not always directly connected with financial movements. Therefore, financial values may evidence a greater availability of resources with respect to those necessary for purposes of expenditure, while economic values may evidence greater costs compared with income. However, while strict regulations apply to cases of deficit of administration, the legislator, although acknowledging the informative importance of accrual accounting, does not offer provisions on how to proceed in case of a negative fiscal year result. For private companies, provisions on this topic are offered by the Italian civil code, which dedicates specific attention to this phenomenon. Indeed, the loss is a negative equity component, and therefore it reduces the net equity. The civil legislation on the topic establishes that, when there is a loss corresponding to over a third of the equity value and this is

continued in the following fiscal year, the company needs to cover the loss with a reduction of the equity. The rationale behind the norm is to guarantee enhanced transparency on the actual situation of the company as a measure to protect its stakeholders. For the same reasons, in the case of public entities it would be important to investigate the causes that determined the loss (whether of operating, economic or financial nature) and elaborate mechanisms of coverage, also in order to guarantee continuity. Indeed, a negative economic result is not sustainable over time, in that it would be an indication that the utilities produced by the entity are lower than those consumed, and that therefore the entity is destroying value. The relevant legislative gap has not been filled to date. Just like private entities, also public entities are nowadays called to guarantee balances in their statements (and not just in financial terms, as currently provided, but in economic terms) and operate with goals of efficiency, effectiveness and economy.

In conclusion, having drawn a comparison between different accounting techniques used for the management of public resources (cash accounting as well as accrual accounting), this research represents a contribution towards: (i) the implementation of European and International Accounting Standards (EPSAS and IPSAS) in course of elaboration: the local authorities part of the pilot project have tested the principles of accrual accounting in the public sector and identified the most common and complex criticalities, which can be translated into suggestions for the elaboration of accounting standards; (ii) the identification of new elements and information useful for the management choices and techniques of public administrators.

The accounting reformation has applied since 2015 to all Italian local authorities and its main aim is to support the public administrators' decision-making process towards high-quality performance respecting the goals of efficiency, effectiveness and economy. The change has involved directly the managers of local authorities, who are asked to satisfy the strategic needs of governance, but also clarify and make transparent all financial and economic information concerning the management of public resources. In the light of the public sector's peculiarities, the use of both accounting systems can represent a solid instrument for maintaining balance in the accounts of local authorities in the future. This can also be useful to form a complete and informative database intended to serve the elaboration of policies for the accounting harmonisation of the public administration.

This research project highlights some important gaps and aims to provide indications for a better management of public resources, addressing public management and public governance scholars as well as public administrators. Its limitations can be identified in the continuous evolution of accounting regulations, which lately have influenced and modified the choices of public administrators, requiring assumptions to be made on the comparability of statements over time. In

addition, the absence of historical series of data for analysis prevents conclusions that are more generalizable.

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## CROSS CULTURAL PERSPECTIVES: A LEADERSHIP PERSPECTIVE ON HUMAN NICHES

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### ABSTRACT

Organisations are faced with many intricacies. Rapid environmental changes, the need for sustained profitability and general complexities such as globalisation, diversity, technological changes and leadership challenges all necessitate organisations having to rethink old methods and embark upon new ones. This implies change. Given workforces with a greater degree of demographic diversity, technological change and increased international competition, coupled with the breath-taking changes foreseen in the business environment, leadership models are likely to become increasingly significant.

Although modernity is characterised by change, humans struggle with change as the future becomes increasingly unpredictable. Individuals react differently to changes in the status quo, have a different understanding of dilemmas and different perceptions. Diversity is a driving force for change, thereby increasing unpredictability. Therefore, leadership are increasingly faced with diversity challenges, dilemmas and opportunities.

This paper extends the concept of diversity to diversity of thought. A much broader concept which includes aspects such as personality type, diverse intelligences, complexity handling and world views. Such diversity of thought will be positioned within human niche theory. An understanding of the thinking system and coping mechanisms of different human niches allows for effective leadership adaptation.

This study followed a qualitative research approach and a grounded theory methodology was adopted. Data was collected through a case study, eight in-depth interviews, four focus group sessions, solicited data, field notes and observations.

**Keywords:** *Diversity, Grounded Theory, Human niches, Leadership, Management, Organisational change, Stress.*

### INTRODUCTION



The new economy ushered in huge business opportunities and great turmoil, resulting in the constant state of change in which organisations have to operate. Both Burke (2009) and Guillory (2007) found that globalisation, new technology, customer expectations and increased diversity accelerate change, generally with extreme unpredictability. Most organisations accept that they must change. However, change remains difficult to achieve, and few companies manage change effectively (Meaney and Pung, 2008; Todnem-By, 2005) as a result of the complexity of change (Bareil, Savoie & Meunier, 2007). Given workforces with a greater degree of demographic diversity, technological change and increased international competition (House, 1995), coupled with the breath-taking changes foreseen in the business environment (Eisenbach, Watson & Pillai, 1999), leadership is becoming increasingly significant. Kotter (1995) underscores the importance of leadership to the change process, because by definition, change requires the creation of a new system and then institutionalisation of the new approach.

Viljoen-Terblanche (2008) suggests diversity as a driving force for change. Organisations may be impacted by a combination of individual, group, organisational, South African and/or global diversity. Viljoen-Terblanche (2008) extends the concept of diversity to “diversity of thought” – a much broader concept which includes aspects such as personality type, diverse intelligences, complexity handling and world views (Viljoen-Terblanche, 2008:18).

## **DESCRIPTION OF DIFFERENT HUMAN NICHES**

Colinvaux (1980) defined a niche as a specific set of capabilities for extracting resources, for surviving hazards, and competing, coupled with a corresponding set of needs. However, this definition does not take the thinking pattern of the individual into account. Colinvaux (1980) explains that our niches are what have changed since ancient times. According to Laubscher (2013) our thinking patterns have changed over time and new thinking patterns have led to new and different realities, extending the concept of human niches. Laubscher (2013) argues that people value different things because of different thinking systems, and these thinking patterns in the brain result in human niches. Viljoen (2014) contends that the way in which identity is defined should be explored in order to understand the human niche. The term “human niche” describes the areas in which people excel because of their questions of existence. Different human niches are a critical component of diversity (Viljoen, 2014b).

Human niches affect individuals, societies and organisations (Laubscher, 2013). As individuals or cultures moves up to a higher-order system, they transcend and include all lower-level value systems. Individuals, societies and organisations cannot skip a developmental stage (Dawlabani, 2013). Viljoen and Laubscher (2014) see the different cultural human niches as cyclical and interactive, as well as linear and cumulative. Human niches are emerging waves, not rigid categories (Laubscher, 2013).

## FIRST-TIER HUMAN NICHES

### *BEIGE: Survival*

In the BEIGE level of thinking systems all energy is directed towards survival through innate sensory abilities and instinctual relations. At this level, humans form loosely organised herd like structures that often change format (Laubscher, 2013). Viljoen and Laubscher (2014) emphasise that BEIGE is still alive (not extinct) and especially visible in East Asia, Haiti, Egypt, the Middle East, Portugal and Brazil, in Indian slums and in squatter camps in South Africa (Laubscher, 2013). Laubscher (2013) explains that breeding patterns in society can be studied to understand how BEIGE develops. High population growth leads to an exponential increase in PURPLE. Limited economic resources systemically put pressure on changing living conditions. PURPLE therefore slips back to BEIGE.

### *PURPLE: Our people*

Traditionally, it was believed that the emphasis in PURPLE is on survival, but unlike the BEIGE system, survival is achieved through banding together as a tribe. In PURPLE, people have the capacity to connect and form groups. Such community building does not only happen to hunt together in tribes as originally documented (Laubscher, 2013). Thus, the way in which identity is defined should be explored in order to understand the human niche (Viljoen, 2014b). PURPLE is a collective system, where individuals sacrifice the self for the family, the clan, the leader, the union or the group. The group is typically organised in a circular form with males and females serving the needs of a typical male elder, leader or father of the household. Ancestors play a vital role here as the future is directly impacted by the blessings of those who have passed. The group preserves sacred objects, places, events and memories and observes the traditional rites of passage, the seasonal cycles and tribal customs (Laubscher, 2013).

### *RED: Visible risk*

RED is an expressive individualistic thinking system and represents the first emergence of real and effective individual action and ego. An individual in RED wants to break away from the constriction of PURPLE. Such an individual wants to stand tall, receive attention from others, demand respect and call the shots. Organisationally, while it may use the appearance of a participatory process, unhealthy RED is likely to corrupt processes as the question that the thinking system presents is not how can we be fair or truthful, but how we can gain power. Low RED is displayed in the form of conflict, aggression and corruption. High RED is hero-like, and much needed to breathe life into a subdued PURPLE workforce. The innate ability to take action is visually mirrored in behaviour and results in people who portray a sense of always being in control (Laubscher, 2013).

*BLUE: Stabiliser*

Traditionally it was thought that the BLUE level of thinking systems is the beginning of what most people regard as civilisation, a statement that somewhat belittles both PURPLE and RED people. BLUE is also often described as the truth force because it is organised around absolute beliefs in one right way and obedience to authority. BLUE is a sacrificial system, where individuality is sacrificed to the transcendent cause, truth or righteous pathway. BLUE believes that righteous living produces stability now and guarantees future rewards which are impulsively controlled through guilt. In BLUE, everybody has his or her proper place. Laws, regulations and discipline build character and moral fibre (Laubscher, 2014; Viljoen, 2014b).

*ORANGE: Calculated risk*

At this point, the stronger and more enterprising members of the group realise that they are being held back by adhering to the rules and procedures of the group, and better results are possible through individual action. For the first time, traditional religion is challenged. ORANGE believes in better living through technology, with the main idea being that we can shape, influence, promote progress and make things better through the use of scientific methods, quantification, trial and error and a search for better solutions (Beck and Cowan, 1996). In this thinking system, innovation, progress and success are important. ORANGE seeks to manipulate the world's resources in the most efficient and effective manner. ORANGE is optimistic, risk-taking, and self-reliant. It is the human niche of material prosperity through merit. While BLUE looks to the past, ORANGE looks to the future (Laubscher, 2013, 2014; Viljoen 2014).

*GREEN: Inclusive*

The GREEN thinking system appears in the quest for inner peace and human connection; inclusivity and connectedness become the highest values. The well-being of all the people is a critical consideration. GREEN, unlike ORANGE, wants to sacrifice self, now, for both self and others, for humanity. GREEN responds to the lack of internal fulfilment by seeking peace with the inner self and exploring the more caring and spiritual dimensions of humanity. When outwardly directed, the ideal GREEN social organisation is the network, governed by consensus-decision making (Laubscher, 2014). The role of GREEN is to renew humanity's spirituality, to bring harmony and to focus on the enrichment of human development. GREEN often dislikes conflict, because all opinions are valued. This does mean that GREEN can paralyse itself (Laubscher, 2013). The RED human niche really plays havoc with GREEN's emotions. Hence GREEN should not enter into negotiations with RED if it does not understand the RED human niche (Viljoen, 2014a).

## SECOND-TIER HUMAN NICHES

### *YELLOW: Systemic/functional*

Similar to the first human niche in the second tier, YELLOW is concerned with survival, but this time the focus is on survival of the self and of all others. This niche is concerned with functionality and grapples with the problems of the universe (Viljoen, 2014b). It is an individual and expressive thinking system, taking many of the healthy expressions of GREEN, ORANGE, BLUE, RED and PURPLE and integrating them into a more effective system (Beck, 2013). It recognises the different evolutionary stages and works to unblock hurdles standing in the way of a healthy systemic flow for all of humanity, with the understanding that chaos and change are a natural part of the process (Laubscher, 2013).

### *TURQUOISE: Integral-holonic*

To TURQUOISE, the world is a single, dynamic organism with its own collective mind, and the self is at the same time distinct but also a blended part of a larger, compassionate whole (Beck and Cowan, 1996). TURQUOISE is a highly complex thinking system (Viljoen, 2014b). Everything is interconnected and holistic, intuitive thinking and cooperative action are expected. A full-merit system of exchange recognises the totality and efficiency of serving the biosphere will replace all monetary forms of exchange (Laubscher, 2013).

## RESEARCH METHODOLOGY

A qualitative research approach was followed and a grounded theory methodology adopted. Observations and interviews initially covered a broad range of concepts which were narrowed down as themes and concepts emerged. A literature review was conducted to inform the interview questions. The collected data was subjected to a process of grounded theory.

Table 1 summarises the research steps and methodology and outlines the different data collection phases, the different sample groups and the objective of each process step while indicating the data analysis methodology and methods employed to ensure quality data.

Theoretical sampling was used to collect-, code- and analyse the data in order to decide where to sample next in accordance with emerging codes and categories (Glaser, 1978) and to inform the saturation of categories (Charmaz, 2006). Sample participants were selected for relevance to the breadth of the issue. Sampling stopped once the body of knowledge no longer expanded (Cooper and Schindler, 2011). Data was collected through a case study, eight in-depth interviews, four focus group sessions, solicited data, field notes and observations. Data analysis was conducted through theoretical coding, theoretical memoranda and theoretical sorting.

Research step	Purpose of research step	Data collection method	Data analysis	How to ensure quality data
Solicited data	Provides research context	Case study	Content analysis	Integrity, relevance, credibility
Three senior (regional) leaders	To understand the role of leadership and the concept of organisational change as viewed by senior management who were involved in the strategic change initiatives	In-depth interviews	Content analysis, descriptive statistics, coding themes (grounded theory)	Fit, relevance, modifiability and workability
Two ex-CEOs', Two CEOs' and One divisional head	To understand the role of leadership and the concept of organisational change from a strategy perspective	In-depth interviews		
Senior managers	To understand the impact of organisational change initiatives on individuals and leaders	Focus groups		
Middle managers	To explore the impact of organisational change on middle management and understand their role in implementation	Focus groups		
Minutes, projects	To contextualise the impact of organisational change	Solicited data	Content analysis	Integrity, relevance, credibility
Personal notes	To contextualise the impact of organisational change	Field notes		

Table 1. *Description of research steps and methodology*

## FINDINGS

### *Case study data*

Although the nature of the three case elements differed completely from one another, fundamental similarities stood out. The importance of participation, communication, feedback and discussions, as well as leadership was reiterated.

Stress, fear and anxiety were predominant feelings. The organisation's apparent inability to deal with the impact of stress on individuals and a lack of organisational understanding of the impact of stress on individuals were significant.

Understanding different thinking patterns (as positioned through human niches) is beneficial to successful change. Organisations and leadership with little/no knowledge of human niche theory, have little appreciation for and application of different worldviews. It appears that an understanding of different thinking systems would have assisted successful change.

Extending this to the training strategy indicates an incorrect and incompatible training methodology. Whenever possible, metaphors should be used with PURPLE. Moreover, PURPLE has a learning system that relies on copying, and its members are passive learners who rely heavily on right-brain functions. Training should be adjusted and/or adapted to provide for different human niches. Practical experiential learning interventions could have worked much better than the training methodology followed, as reflected in the case study.

Integrating these findings into human niche theory reveals that this organisational change initiative was used as a RED power tool. RED made the decisions, directed work and ensured a downward only flow of communication. The powerful, downward only flow of communication took control away from employees, resulting in a lack of certainty and autonomy. This, in turn, further increased employees' feelings of anxiety and stress. Perhaps high BLUE could have directed and utilised RED energy more positively. Encompassing change within strategy, applying a comprehensive change management method and ensuring a workable stress reduction outlet in the organisational setting should have contributed towards the success of this change element.

The BLUE authority structure did not understand the different thinking systems. BLUE attempted a prescriptive approach, failing to understand change from the perspective of those engaged in its implementation. This workforce, led by elders, rigidly preserves the ways and culture, is safety driven and prefers circular communication. The attempt to introduce rigid rules through downward communication could partly explain why this change initiative failed. An understanding of human niches, coupled with proper translation between PURPLE and BLUE human niches, could have assisted this change initiative.

#### *Focus group sessions*

Within the context of organisational change, the high prevalence of change dominated. In two focus group sessions, the respondents stated that there were continuous changes. Hence change was no longer perceived as a discrete event with a clear beginning and end, but rather as a state of continuous flux. Employees found it difficult to align their actions and perceptions with the change expectations owing to an organisational state of constant disruption.

Organisations generally, do not follow any change models or change methodology. In two focus group sessions, one respondent mentioned that schedules and documents had been drawn up. This is a typical BLUE human niche response. In both instances, this had been challenged by RED or ORANGE, stating that the deadlines had been missed and that plans had generally not been shared. The small amount of time spent on change preparation was generally stated as a concern. However, in the second focus group session, participants were not able to relate documents, schedules and deadlines to change preparation. This could possibly indicate PURPLE human niches, who in direct contrast to mechanistic processes such as schedules, are inclined to experience sharing and discussion as preparation for change.

It was agreed in focus group session one, two and three that there were processes in place to deal with change, such as plans and schedules - again a typical BLUE human niche response. However, everybody agreed that there were no processes in place in the organisation to understand the impact and context of business changes. Individuals admitted to struggling with change, not wanting to come

to work, having no outlet within the organisation that could help them deal with the increased stress they were experiencing during change and even struggling to function. Despite such schedules and plans, most participants felt that change was messy and “all over the show”.

Critical success factors were given as the involvement and participation of all, the importance of people and the necessity to cause no harm. This emphasises a need on the part of PURPLE and GREEN human niches. In addition, the necessity for understandable communication, leadership and transparency was emphasised as being critical to successful change. PURPLE and RED human niches struggle to understand BLUE communication.

Successful organisational change at an individual level requires participation, involvement and empowerment. However, change is generally resisted and perceived negatively. It was argued that employees resist because of a lack of understanding. This could again indicate the poor translation of BLUE communication to PURPLE. However, this could also indicate that change is not a linear process and that human reactions to change do not follow a linear pattern (Viljoen-Terblanche, 2008), but a U-curve (Scharmer, 2007). However, given the constant state of change in organisations today, the required time-period for individuals to move through the U-curve, eight months plus, according to Viljoen-Terblanche (2008), and integrating the change initiative, is no longer viable.

In every focus group session, communication was stated as hugely important. However, a number of respondents mentioned that the organisation did communicate through memos and e-mails. Others asserted that there was no communication. This again indicates a BLUE response, which does not speak to PURPLE, and which perpetuates the organisation's struggle to ensure effective communication.

The respondents unanimously agreed on the importance of leadership, even though different opinions on leadership were shared. Time constraints, a lack of change knowledge and poor explanation of the changes were seen as leadership hurdles.

Everybody in focus group session one agreed that individuals struggle with heightened stress during times of organisational change. It was acknowledged and agreed that organisational change causes fear and resistance for many individuals. The lack of stability during changes was perceived to increase fear, stress and anxiety. Organisational change increases individual stress. The respondents turned to spiritual and physical methods to alleviate stress, but still reported feeling scared and anxious. This could again indicate PURPLE, which struggles to identify with the methods BLUE follows. During focus group session three, one individual failed to respond and interact in the conversation. This could indicate the PURPLE human niche, which downshifted to BEIGE as a result of increased stress.

One respondent stated that stress is merely a convenient excuse for people who are not willing to move from their comfort zones and deal with the required changes. This can be seen as a typical RED response. Such a response to the fear and anxiety would result in extreme disconnect owing to unawareness of human niches.

It was asserted that change should enable and empower the individual. However, someone also commented that organisations do not have change knowledge and struggle to support change internally. Further, it is only if people understand the change that they are able to participate. Without participation, enablement and empowerment become irrelevant. The BLUE perception of training as empowerment again disconnects from PURPLE's view of empowerment as only being possible once communication was been understood.

## **LEADERSHIP IMPLICATION**

Different human niches are at play amidst the fear, anxiety and stress created by organisational change. The worldviews in the first tier are characterised by fear and it is estimated that 98% of people live mainly in the first tier (Beck and Cowan, 1996), which might explain why our reaction to events is often aggressive. Further, each first-tier level finds it difficult to understand or value the others, resulting in difficult communication.

It is critical that leaders first understand the impact that change has on their own functioning. Thereafter, they need to understand the impact that change has on the functioning of individuals. In the new world of work where change is prevalent the challenge is to communicate transition awareness and management skills to all employees in order to optimise human behaviour.

Laubscher (2014) found that change will result in individuals regressing one level downwards. Hence, BLUE will drop to RED, RED will drop to PURPLE and so forth. According to Graves (1974), people who are under pressure are often driven by values different from those when they are relaxed.

The thinking of different human niches was not understood or applied throughout the organisation investigated in this study. Hence, unintended failures, unforeseen implications and general difficulties arose. Ideas that fall outside the norms and assumptions were often rejected without consideration. As a rule, different thinking systems also look upon behaviours of other human niches and do not understand what they see. During times of organisational change, translation between different niches becomes imperative.

Human niches are at work at an individual, team and organisational level, which influences organisational outcomes as people value different things because they think in different ways. People may shift their thinking to fit the conditions at hand and will operate quite differently when under



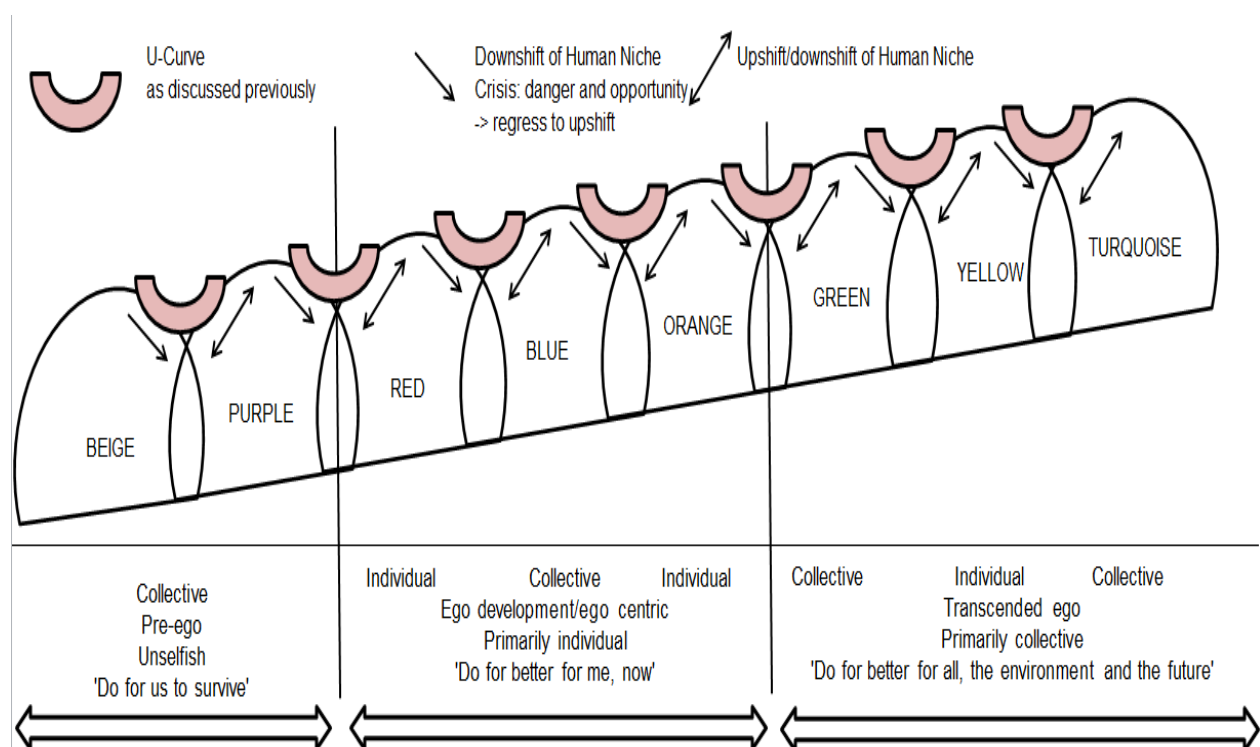
pressure or stress. Organisational change interventions should yield a multifaceted systemic approach at global level, while involving the whole person.

Organisations should not attempt to change people. Instead, they should manage people's weaknesses while capitalising on their strengths. In practical terms, this requires organisations to understand people in the worlds in which they live. This should be extended as a prerequisite for all leaders - all leaders should have a deep understanding of their people as whole and complete, multifaceted individuals comprising a body, mind and soul.

Organisational change creates ambiguity and uncertainty. PURPLE seeks group safety. The organisation remains one of the fundamental groups in which PURPLE operates. When safety and security are removed, PURPLE can no longer function optimally. Organisational change initiators need a deep awareness of PURPLE as well as relevant strategies which can address the uncertainties created by organisational change.

Individuals struggled to move through the change journey. Figure 1 indicates the researchers findings that stress may cause the individual human niche to downshift. In figure 1, one should note the U-curve which is evident in every move of the spiral. Moreover, moving through the U-curve requires time.

Figure 1 also indicates that once downshifted, an upshift becomes possible. In the researcher's opinion, today's organisations need alternative interventions that could assist the individual to, firstly, reduce stress and anxiety, and secondly, to allow the individual to regress to the BEIGE human niche from where upshift becomes possible.



*Figure 1: Downshift of the human niche when under stress*

Different people excel differently. PURPLE, being the predominant human niche in Africa, brings with it innate wisdom and goodwill. Organisational thinking systems must embrace this wisdom and goodwill. This requires organisations, which predominantly fall within the BLUE human niche, to alter their thinking system which believes that the organisation is always right. The BLUE organisation needs to adjust its dogmatic and mechanistic thinking to embrace more humanistic methods in order to be understood by PURPLE.

We can see that PURPLE tribalism, RED dictatorship, BLUE authoritarian structures and democracy, ORANGE capitalism and GREEN socialism all have detrimental side effects. Further, that each of these thinking systems are unable to provide an integral solution to complex organisational dilemmas.

## CONCLUSION

An analogy can be drawn between organisational change and working the land. When working the land, a team of oxen is yoked with the plough-boy in front. The plough-boy makes few, if any, decisions; instead, his only function is to follow, albeit from the front. The driver of the team of oxen is at the back or on the side of the team, sometimes sitting in the wagon from where he directs and drives the team and the plough-boy. Occasionally, the plough-boy knows where to go and leads the entire team, with the driver merely determining the tempo or pace of work.

Furthermore, each ox has its special place in the team. Generally, the two tamest oxen are at the back to stabilise the entire operation. The driver knows each ox intimately, knowing what can be expected of each and every one. Each ox is placed according to its ability, strength and skill. However, when an ox becomes ill or “stressed”, it has to be replaced by a fresh ox, and the unfit ox has to be treated or rested.

Similarly, during organisational change, the leader should be guiding from behind, allowing the leaders of teams to take up their roles. The leader should be intimately familiar with the strengths, abilities and condition of each and every employee, while ensuring role clarity for all involved in organisational change. The strengths of every employee should be aligned to job requirements where these strengths can best be utilised in achieving organisational objectives. Leaders must consider the replacement of unfit role players, for whatever reason.

The need for a new frame of reference when embarking upon organisational change has been highlighted. Furthermore, fear, stress and anxiety featured in every conversation. The first and often lasting emotion when discussing organisational change was fear. The respondents acknowledged that organisations are unable to deal with increased individual stress. Organisational leaders admitted that no workable methods were in operation in the organisation which effectively reduced individual

stress levels. Yet, the strengths of every individual can only be utilised fully when such an individual's stress levels are in a state of homeostasis or at least reduced.

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## COMPETENCE IN MANAGING PROJECTS: ACKNOWLEDGING THE HUMAN ELEMENT

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### ABSTRACT

Change has become inevitable within organisations. A project approach is increasingly followed as a methodology to move the organisation from one state to another. Increasingly, a change management component is incorporated into the project schedule. However, despite the investment in time and resources organisational change initiatives are still plagued with low success rates.

Although modernity is characterised by change, humans struggle with change as the future becomes increasingly unpredictable. The extended disorder that has become the norm within society and organisations can cause a sense of loss and/or anxiety for individuals, organisations and society. Unrelieved stress becomes perpetual, and will undeniably influence organisational change efforts negatively. Thus, the impact of fear, anxiety and stress at individual and organisational level and the importance of a truly human element within change management is accentuated.

Further, human niches are considered in the application of a project approach. Understanding the thinking system and coping mechanisms of different human niches allows for effective adaptation of change management and project based approaches.

This study followed a qualitative research approach and a grounded theory methodology was adopted. Data was collected through a case study, eight in-depth interviews, four focus group sessions, solicited data, field notes and observations. The case study comprised three case elements which all followed a project approach.

**Keywords:** *Change management, Grounded Theory, Human niches, Human reaction to change, Organisational change, Project management, Stress.*

### INTRODUCTION

The new economy ushered in huge business opportunities and great turmoil, resulting in the constant state of change in which organisations have to operate. Both Burke (2009) and Guillory (2007) found that globalisation, new technology, customer expectations and increased diversity accelerate change,

generally with extreme unpredictability. Most organisations accept that they must change. Despite a large focus on change management (Dahl, 2009), change remains difficult to achieve, and few companies manage change effectively (Meaney and Pung, 2008; Todnem-By, 2005) as a result of the complexity of change (Bareil, Savoie & Meunier, 2007) and frequency of projects (Vacar, 2013).

Gollner, Andersen, Gollner & Webster (2015) underscores the importance of assessing cultural dynamics in large technology implementation projects. Such assessment knowledge could then be used to modify implementation plans with the goal of a higher success rate. However, for individuals in these systems, the frequency of change coupled with a lack of cultural understanding can be devastating. Within this context it remains improbable for individuals to find meaning and engage with the change initiative. Thus, sustainable change remains elusive.

## **ORGANISATIONAL CHANGE MODELS**

Lewin (1951) developed the three-step model which breaks change down into three steps: unfreezing, changing and refreezing. According to Lewin (1951) change towards a higher level of group performance is often short-lived as group life soon returns to normal.

Scharmer (2007) developed the U-process which leads people through three core movements that allow them to connect to an emerging future. Theory-U informs us that there are three inner voices of resistance that keep us from hearing the emerging future. The voice of judgement is resistance to an open mind which stifles creativity; the voice of cynicism is resistance to an open heart because we are entertaining the companions of arrogance and callousness; the voice of fear is resistance to an open will. Managing all three voices appropriately, can take us from fearful to fearless.

People have an inherent need for predictability and order. Major organisational changes may be experienced in ways that contradict this basic need and likewise deplete employees' adaptive resources (Hogan, 2007). Corbitt (2005) found that the overwhelming effect of stress on employees can be devastating and the cost to the organisation enormous. Further, employees are significantly more likely to resort to stress-related medication in organisations that have experienced broad changes (Dahl, 2009). This highlights the importance of acknowledging the often unexpected negative outcomes of fundamental organisational change, which are not often considered in conventional theories of organisations (Dahl, 2009) or when following a project approach (Gollner *et al.*, 2015).

## **IMPACT OF LEADERSHIP ON ORGANISATIONAL CHANGE**

Leadership models are likely to become increasingly significant given workforces with a greater degree of demographic diversity, technological change and increased international competition

(House, 1995), coupled with the breath-taking changes foreseen in the business environment (Eisenbach, Watson & Pillai, 1999). Kotter (1995) underscores the importance of leadership to the change process, because by definition, change requires the creation of a new system and then institutionalisation of the new approach. However, there has been little integration between change management and leadership in the literature (Eisenbach *et al.*, 1999) and much remains to be established about the role of leadership in the change process (Bateh, Castaneda & Farah, 2013). Burnes (2004) sees the ability to manage change as a core competence of successful organisations. A prime task of leaders is to effect change, and change in turn requires strong leadership (Hughes, Ginnett & Curphy, 2009).

Kanter, Stein & Jick (1992) posit that leaders are responsible for change strategy, implementation and monitoring. The challenge of managing change is thus the most fundamental and enduring role of leaders in the organisation (Ahn, Adamson & Dornbusch, 2004). Yet, Gilley, Gilley & McMillan (2009) found leadership a considerable obstacle to change due to insufficient change skills.

## **SPIRAL DYNAMICS (SD) AND HUMAN NICHES**

Research has failed to take adequate account of the perceptions and responses to organisational change by members of different groups (Jones, Watson, Gardner & Gallois, 2004). Individuals react differently to changes (Rosenberg and Mosca, 2011). Individuals have a different understanding of ethical dilemmas, business practice and leadership (Page and Gaggiotti, 2012). When participants' views change, this is filtered through their preferences and appreciated and accepted, or resisted accordingly (Dibella, 2007).

Spiral Dynamics (SD) is a theory of human development, based on Graves's (1978) theory of the biopsychosocial system of human development. Beck and Cowan (1996) introduced the term "spiral dynamics", arguing that human nature is not fixed and that, when confronted by changing life conditions, humans can adapt by constructing new value systems that allow them to cope with the new reality. SD studies the emergence and patterns of deep values (Beck and Cowan, 1996), based on a spiral which unfolds in complexity where each spiral turn represents a different world view from which reality can be understood (Beck, 2004).

Laubscher (2013) further built on Graves's (1978) views, developing the term "human niches" to describe the areas in which people excel because of their questions of existence. Human niches depicts a thinking system in the individual, organisation or society at large.

SD is potentially useful in organisations because of its ability to recognise and work with different levels of values in the organisation (Beck and Cowan, 1996). Integrating human niches and SD into the

organisational change process and leadership could provide insights which will ensure success for individuals, leaders, organisations and society as a whole.

## RESEARCH METHODOLOGY

A qualitative research approach was followed and a grounded theory methodology adopted. Observations and interviews initially covered a broad range of concepts which were narrowed down as themes and concepts emerged. A literature review was conducted to inform the interview questions. The collected data was subjected to a process of grounded theory.

Research step	Purpose of research step	Data collection method	Data analysis	How to ensure quality data
Solicited data	Provides research context	Case study	Content analysis	Integrity, relevance, credibility
Three senior (regional) leaders	To understand the role of leadership and the concept of organisational change as viewed by senior management who were involved in the strategic change initiatives	In-depth interviews	Content analysis, descriptive statistics, coding themes (grounded theory)	Fit, relevance, modifiability and workability
Two ex-CEOs', Two CEOs' and One divisional head	To understand the role of leadership and the concept of organisational change from a strategy perspective	In-depth interviews		
Senior managers	To understand the impact of organisational change initiatives on individuals and leaders	Focus groups		
Middle managers	To explore the impact of organisational change on middle management and understand their role in implementation	Focus groups		
Minutes, projects	To contextualise the impact of organisational change	Solicited data	Content analysis	Integrity, relevance, credibility
Personal notes	To contextualise the impact of organisational change	Field notes		

Table 1. *Description of research steps and methodology*

Table 1 summarises the research steps and methodology and outlines the different data collection phases, the different sample groups and the objective of each process step while indicating the data analysis methodology and methods employed to ensure quality data.

Theoretical sampling was used to collect-, code- and analyse the data in order to decide where to sample next in accordance with emerging codes and categories (Glaser, 1978) and to inform the saturation of categories (Charmaz, 2006). Sample participants were selected for relevance to the breadth of the issue. Sampling stopped once the body of knowledge no longer expanded (Cooper and Schindler, 2011). Data was collected through a case study, eight in-depth interviews, four focus group sessions, solicited data, field notes and observations. Data analysis was conducted through theoretical coding, theoretical memoranda and theoretical sorting.

## THE CASE STUDY

The background to the case study was a large manufacturing company in South Africa which started as a family business that had grown steadily. Majority shareholding had been sold to an overseas affiliate resulting in strategic, functional and operational changes, coupled with the requirement to be globally competitive.

In the context of this research, the installation of a new fleet system, the attempted installation of a total working time (TWT) system and the implementation of a work style innovation (WSI) initiative will place a project approach, the organisational change process and leadership under a magnifying glass. The fleet initiative involved the removal and replacement of the department's information system. The TWT initiative involved major changes to improve production line efficiency, coupled with the introduction of labour efficiency measurement tools. The purpose of the WSI project was to change the desktop interface for electronic communication in order to create a more agile workforce. Each initiative followed a project approach, specifically PRINCE (projects in controlled environments) methodology. Except for the TWT initiative, no change management was employed.

## FINDINGS

Numerous similarities emerged from the three case elements which comprised the case study. Stress, anxiety and fear were dominant themes as change was perceived from a fear perspective, inevitably leading to resistance. Individuals had a deep need to understand the rationale for organisational change and a lack of understanding increased stress and anxiety.

The importance of participation and inclusivity during periods of organisational change was recurring themes. Radical changes had a huge impact on individuals and they generally reacted with resistance. The lack of organisational competency to handle change and understand the impact of stress on the individual resulted in very real emotions such as stress, anxiety and fear.

Prevalent was the lack of change management skills and the non-existent integration between change management, leadership and management. Throughout the different change initiatives, the inability of the organisation and leadership to address the increased stress levels arising from the change initiative was evident.

Challenges surface when a pure project approach is followed. Projects that impact on and/or change individual's and their job roles or functions need to include a change management element. The change and project management functions must present a unified change proposition. Through a stronger change management case, early inclusion and discussion involvement can be ensured. Such joint co-operation will also contribute positively towards the change management perception. The



earlier in the project such a unified proposition can be presented, the sooner and perhaps more easily, successful change might be achieved.

Technically, this requires that project and change functions design, develop and deliver a comprehensive solution that addresses both process and human elements. From an individual change perspective, such a solution will manifest through behaviours, resistance, processes and daily functions. To effectively alter behaviours, reduce resistance and modify daily activities, requires that the designed solution must be widely accepted, approved and implemented by those individuals and/or groups impacted by the change and the suggested solution. This implies effective communication, participation and inclusivity.

The different change initiatives mentioned in this case study failed to realise their full benefits, despite well-developed and planned technical solutions. It would seem that cost and time overruns remain unless organisations include individual participation, inclusivity and behavioural change as well as effective stress reduction methods concurrently.

## DISCUSSION

PRINCE was used to manage the project from a technical perspective. From a human/employee change perspective, no change management component existed and no change management process was followed. No tools, methods, techniques or processes were applied to manage the people side of change, nor to reduce and manage resistance to change. No readiness assessments were done to establish the scope of the change or to determine the number of people affected. There was no integration between change management, project management and/or leadership.

Human reactions and experiences relating to this change, as well as the perception that poorly planned or executed organisational change initiatives increases stress levels, led the researcher to consolidate these ideas into figure 1, reiterating the importance of a multidisciplinary, multidimensional approach to understanding human nature. This figure indicates that individuals comprise physical, emotional, mental and spiritual elements. When one of these elements is burdened, the other will also be troubled. Only when all these elements receive equal attention or are balanced can there be any coherence. A whole person will be able to contribute much more at an individual, team, organisational and community level.

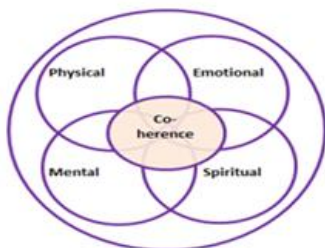


Figure 1. *Basic elements of the whole person*

Different individuals exhibited different thinking systems and coping mechanisms; thus different human niches. Neither management, nor the project or organisation knew how to deal with this dilemma. A lack of leadership, guidance, effective and efficient communication perpetuated the inefficiencies. A lack of firm decision making further increased the difficulties experienced. Leadership failed to lead in areas relating to workable solutions, employee capacity, driving process improvements and ensuring valid and reliable data. Such failures resulted in non-credible information, demotivated staff, despondency, no direction, inconsistencies and indifferent individuals.

#### *Fleet*

From an individual change perspective, change is challenging and difficult. Individuals experience a range of emotions, which throws them into further turmoil. Proper technological uses should be distributed to all, while allowing content to be informed by the needs of everybody in the department. This implies inclusivity (Viljoen-Terblanche, 2008). Technology creates transparency. However, a mind-set shift requires time for the dissolution of fear and compulsiveness. Through involvement and participation, the fear and resistance of all stakeholders could have been significantly reduced.

Different thinking systems was illustrated, alongside the lack of acknowledgement of the importance of the human element in successful change. Humans have an inherent need for predictability and order. Major organisational changes may be experienced in ways that contradict this basic need, depleting employees' adaptive resources.

The researchers built upon the U-movement (Scharmer, 2007; Viljoen-Terblanche, 2008), indicating a triangle comprising leadership, management and the individual, as the base. Figure 2 acknowledges the individual's physical, mental, spiritual and emotional components. Furthermore, figure 2 indicates if the whole person is not attended to during change, the U-movement would likely skew to the left, resulting in resistance. There against, inclusivity, participation, involvement, empowerment and clear communication can assist the individual to remain firmly rooted through a change initiative.

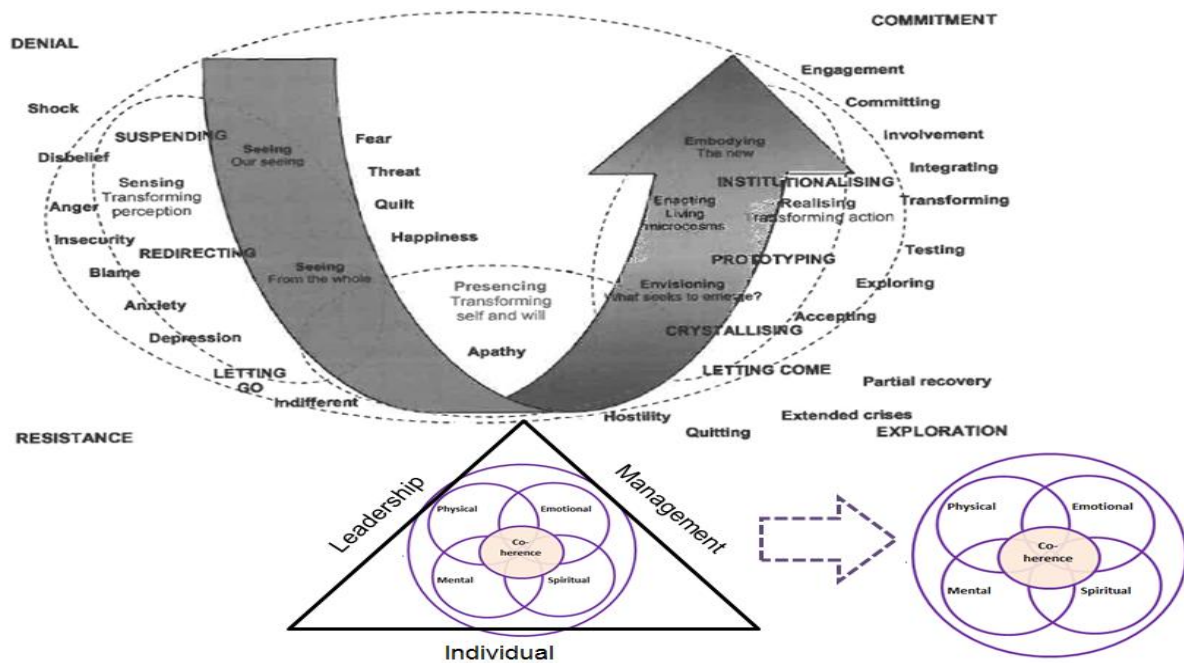


Figure 2. *Adapted U-movement integrating organisational description (Scharmer, 2007; Viljoen-Terblanche, 2008:82)*

The more entrenched a model of work becomes, the more change will be resisted. As much as the injection of information and technology makes the defence of old practices preposterous, a shift in human consciousness is required to alter/adjust such practices. If the project does not cater or allow time for such a shift, resistance will prevail. This clearly illustrates the requirement for change management alongside technological changes.

Quantitative analysis can never be the sole metric to use in business practices. New technology allows the accurate measuring of information. However, the interconnectedness between employees and their conscious, subconscious and irrational thoughts and feelings have not been addressed. The long-term functionality of the system requires both.

Technological change should be used as a catalyst to align existing talent, relationships, innovation, experience, processes, systems and value systems on a trajectory to serve the goals of the entire department. Goals should encompass all employees. Allowing one or two powerful individuals proprietary rights to the system should not be permitted. A productive future will be difficult without collaborative systems.

It seems that any change which impacts on the way people do their daily jobs should not be taken lightly. Furthermore, this case initiative illustrated that organisational change still does not hold its rightful place within the organisational or project structure. To ensure improved change, the profile of change should be elevated to a place on the strategy agenda to ensure everybody is able to join in on the journey towards successful change.

*TWT*

Given the reality of this change initiative, the researcher again adapted the U-movement (Scharmer, 2007; Viljoen-Terblanche, 2008) as depicted in figure 2, indicating that certain individuals will experience increased difficulty if the circle of discussion is out of balance. Figure 3 indicates the reality of this change initiative. During change, the U-movement would be likely to skew to the left, resulting in resistance. Resistance played a large part in the failure of this change initiative, partly due to the nonexistence of change strategies, poor communication and a lack of employee involvement. Resistance could also stem from mechanistic structures, too much managerial power and too many procedures and rules. Less personal and more formal communication could have detracted from management's ability to effectively communicate the change initiative intention. Fear of the unknown, loss of security, disruption of routine and/or lack of understanding could have further increased resistance. This emphasises the importance of change management alongside technological changes.

Figure 3 indicates that the U-movement from denial through to commitment rests on a circle symbolising equality, participation, inclusivity and empowerment of all as the base. Various individuals sit in this circle. Employees sought inclusivity, participation, involvement, empowerment and clear communication. A strong need for discussion was evident. These discussions can take place within a circle.

If change impacts on the way people do their daily jobs, the impact of such change on the relevant people should be considered and treated with the necessary respect and empathy. Throughout this change initiative, management seemingly did not treat change carefully.

From a human niche perspective, it would seem that some employees did not realise things were changing. For some, family was more important and all the talk of doing things differently remained just talk. However, such talk about change did increase employees' stress, to a point of becoming paralysed and disengaged.

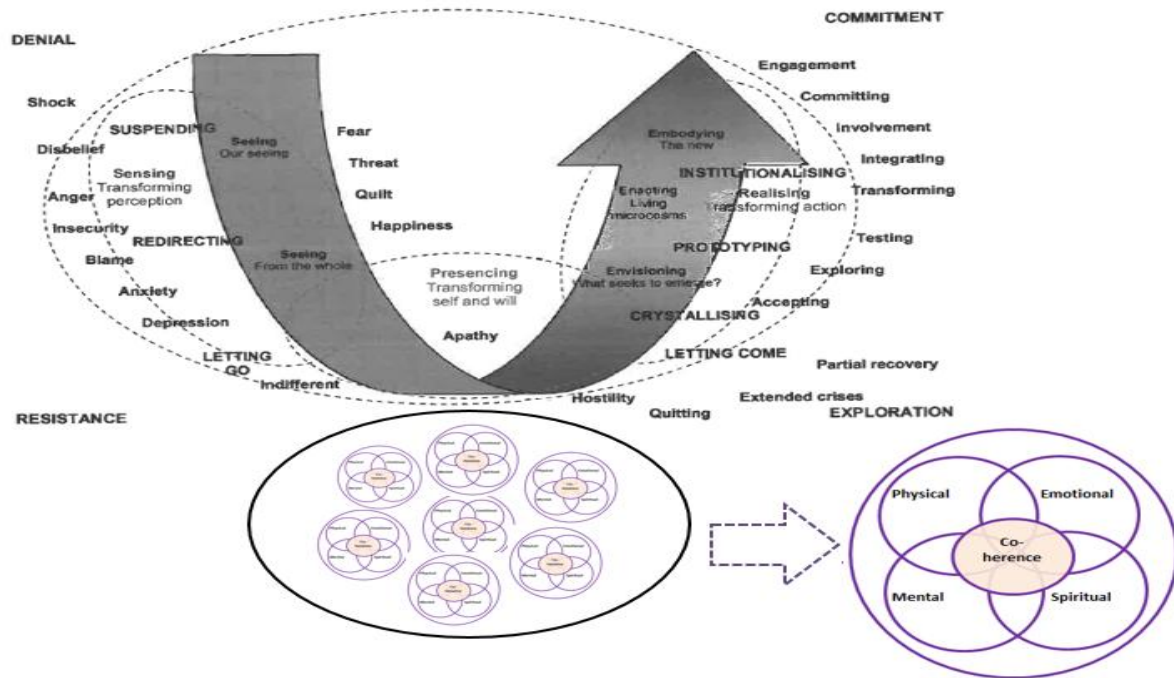


Figure 3. *Adapted U-movement integrating organisational description (Scharmer, 2007; Viljoen-Terblanche, 2008:82)*

Change was generally treated as simplistic, resulting in wastage and damage as time, effort and energy were spent reactively. This project damaged individuals, the company, relationships, trust and employee involvement. At an individual level, mistrust was rife, uncertainty led to insecurity and misunderstanding resulted in resistance. At an organisational level, this poorly run project resulted in wasted time, effort and expenditure. These outcomes would have to be corrected through yet another project, again emphasising the importance of change management alongside project and/or technical changes.

WSI

There seemed to be an association between communication and employees' attitudes towards change. When employees received information about change, they seemed to experience a greater openness and reduced resistance. As a result, the researchers again adapted the U-movement. Figure 4 indicates a hierarchical structure depicting the organisational structure. Figure 4 indicates that a coherent, complete individual resides in each box. Although this structure differs, the individual should still be attended to. If not, the U-movement is likely to skew to the left, resulting in resistance. Given the played-out reality of different thinking methods or human niches and different perceptions between different organisational players, in such a hierarchical structure, individuals experience increased difficulty with discussion and/or communication.

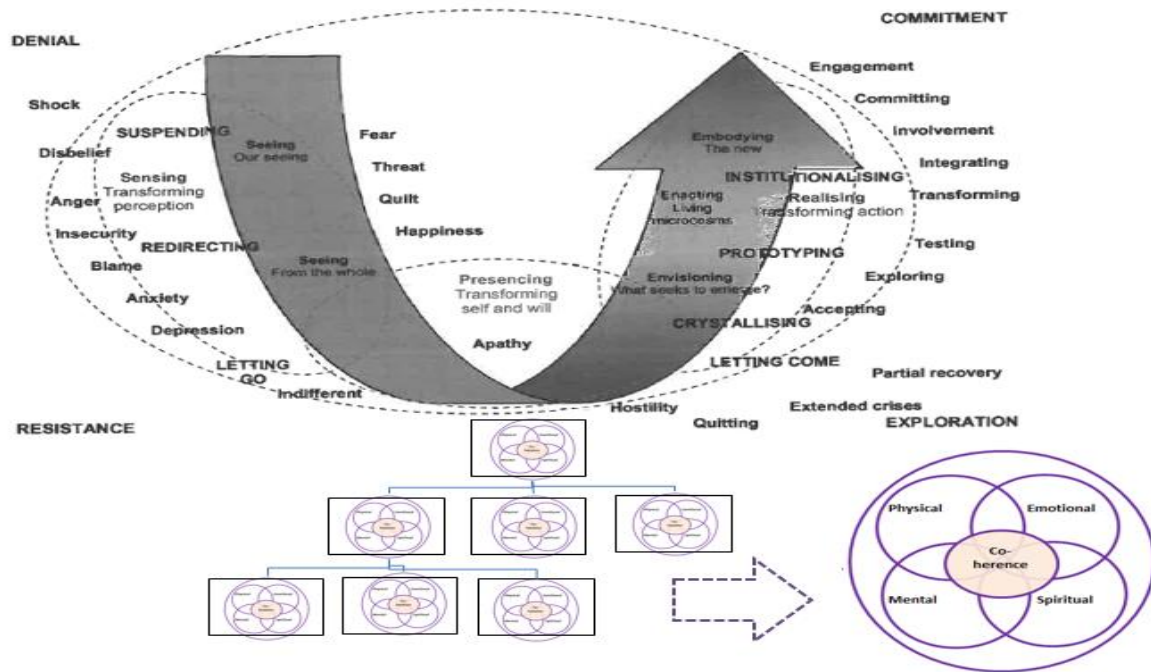


Figure 4. *Adapted U-movement integrating organisational description (Scharmer, 2007; Viljoen-Terblanche, 2008:82)*

This change initiative introduced limited elements related to change management. However, applying small elements made a difference. Involving, engaging, explaining, ensuring understanding and participation, validates the reasoning for the project. This change initiative followed a joint project and change management approach.

Organisational change initiatives increase individual stress and depletes adaptive capacity. Reducing stress and anxiety allows people to carry on with what they have to do. Employees spend less time pondering or mulling over things when relevant information is provided at the appropriate time. Relevant, timeous information also reduces the need to spread rumours. Clearly explaining the steps and how every employee needs to be involved reduces the need to gossip. Ensuring the correct understanding reduces and largely minimises resistance.

Through the application of a combined technical and change management project method, the project was completed successfully. The change-over became almost inconsequential and the number of issues negligible. Planning and interdependence can be hugely improved, but being allowed to implement small elements differently should be celebrated.

## CONCLUSION

The significance of change management when work methods change and how radical change affects employees, was displayed, as was the important role of leadership and the human elements involved

in change. The negative impact of ineffective, inefficient and dysfunctional communication to ensure proper understanding were evident.

Negative attitudes, coupled with different and overlapping perceptions, worldviews and thinking systems, stood out as obstacles in the process of change. A clear inability on the part of leaders and managers to effectively acknowledge and cater for these different and overlapping perceptions, worldviews and thinking systems was further aggravated by an attempt to enforce a general solution for a diverse population. The inability of leaders and managers to harness and employ diversity further increased the difficulty of achieving successful organisational change.

Evident was the lack of integration between leadership, projects and change methodology. The importance of implementing a multifaceted approach, integrating leadership and different thinking systems into the traditional roles of project- and change management seems clear.

## ABBREVIATIONS

PRINCE	PRojects IN Controlled Environments
SD	Spiral Dynamics
TWT	Total Working Time
WSI	Work Style Innovation

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# THE ROLE OF SOCIAL ENTERPRISE IN SOCIAL AND ECONOMIC VALUE CREATION : A CONCEPTUAL CASE STUDY OF SULABH INTERNATIONAL SOCIAL SERVICE ORGANISATION (SISSO) , INDIA

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## ABSTRACT

Social entrepreneurship is emerging as an important field of study within business disciplines. Social entrepreneurship has a legacy and a global presence. They are considered as the 'new instrument' of reform to create social transformation through innovative techniques and serve the under privileged citizens, at the bottom of the pyramid. (Dees, 2007). The purpose of this paper is to generate a deeper understanding how social value and financial viability is created through the social enterprise in India.

India's rapidly growing economy has not managed to alleviate the extreme poverty of nearly half the country's population that lives below the \$1.25 per day poverty line. There are several reasons for this, including lack of infrastructure, limited resources, less provision for education, public health and hygiene as well as basic education. By employing innovative business models, Social Enterprises are addressing India's vast development needs, while maintaining sustainability through viable revenue models. The study documents a spectacular growth story of Sulabh International Social Service Organisation (SISSO), a social enterprise, which provides healthy sanitation facility to over 16 million Indian citizen, who constitute the base of the pyramid (BoP). They have a innovative pricing mechanism and a unique business model .

**Keywords :** *Social Enterprise, hybrid organization, blending economic and social value, PWYW pricing, SISSO.*

## INTRODUCTION

Social Entrepreneurship is the process of addressing social needs and problems, by creating and sustaining organizations having a social principle and social value (Mort et al., 2003). Social Entrepreneurship is commonly defined as an entrepreneurial activity with a focus on social principles and purpose. It has become a global phenomenon, addressing the basic needs of the human society which are neglected in the race for development in the mainstream. The Social Enterprises, which run

their operations and generating a surplus over their expenditure, are called Hybrid Organizations. These hybrid organizations, started with the advent of co-operatives as a form of business organizations in the 19<sup>th</sup> century, and are now present in different sectors. Some of the striking examples of social entrepreneurship have originated in developing countries. Grameen Bank, from Bangladesh, which created a revolution in microfinance and empowered millions of housewives to earn their livelihood and created a mechanism of providing loans to the poor section of society and making them financially independent. It is one of the globally accepted innovative solutions for addressing social of Social Enterprise. Thus the Hybrid Organizations have two goals – economic goal of using scarce resources and generating profits; creating social value by addressing complex social problems with innovative solutions.

Social Enterprises focus on creation and distribution of social value (Dees and Anderson 2003; Mair and Marti 2006). These organizations achieve their social value creation goals through entrepreneurial activities, and have to be financially sustainable in the long run. (Mair and Marti, 2006). In order to be financially viable organization, they have to raise funds from operation, and also align social values, which is a daunting task (Cooney 2006). Mendorza Abarca and Mellema(2005), have proposed a participative pricing mechanism, called pay-what-you-want (PWYW). It supports the social enterprise's 'economic goal of making a surplus and also creating the said surplus for furthering social value creation.' (Mendorza Abarca and Mellema(2005).It facilitates serving more beneficiaries in need, especially from the base of the pyramid(BoP). It empowers the customer from the lowest strata of income to pay for the services they want and thus create a market for such services. It also makes other citizens from the higher income bracket, support such a venture of community development. Such a mechanism aligns commercial activities, which can sustain the operations, and further social commitment to better living. According to Mair and Schoen ,2007 economic value creation is a 'necessary but not sufficient condition' for social ventures to be able to address pervasive social issues (Mendorza Abarca and Mellema, 2005). Further these organizations must serve 'people whose urgent and reasonable needs are not being met by other means' ((Mendorza Abarca and Mellema, 2005).

In this model, of Pay What You Want (PWYW), the pricing of the services offered, is decided by the customer. The implementation of PWYW as a pricing strategy gives buyers the role of determining how much they will pay for a commodity or service. As this pricing mechanism is customer centric, the customer would try and maximize utility and would pay a price which is most effective. This PWYW pricing mechanism increases the revenues over a period of time, by serving more and more customers and improving the wellbeing of disadvantaged individuals (Mendorza Abarca and Melema, 2005).

Organizations such as Soul Kitchen, and One World Everybody Eats Cafes have adopted PWYW as their sole pricing mechanism. These organizations seek not only a sustainable revenue source, but also encourage customers, who cannot regularly afford a meal, a theatre performance, or a museum admission to enjoy the products or services offered. The research paper documents an organization from India, which has empowered people to use its services, by applying PWYW mechanism, in the area of public sanitation and hygiene.

Further, from the literature review on various models of social enterprises formation, there are three models : market makers, system innovators and innovative campaigners (Chamu Sundaramurthy, et al ; June,2013). Market makers are the social entrepreneurs who add social value through new products and services. These ventures create new market avenues by recognizing market inefficiencies that prevent servicing of the under privileged. These social entrepreneurs enable the marginalized and the poor to participate as consumers and pay for the services they use. The system innovators are like any other entrepreneur, who are able to tap the existing opportunities or create a practical solution to an existing problem of the society. Lastly innovative campaigners are the ones who create innovations in social utilities and through awareness and education, bring about participation of masses. There is no water tight compartmentalization of these three forms of social enterprise, most often there are elements of more than one model for any social enterprises organization. The above mentioned forms are depicted in Figure 1

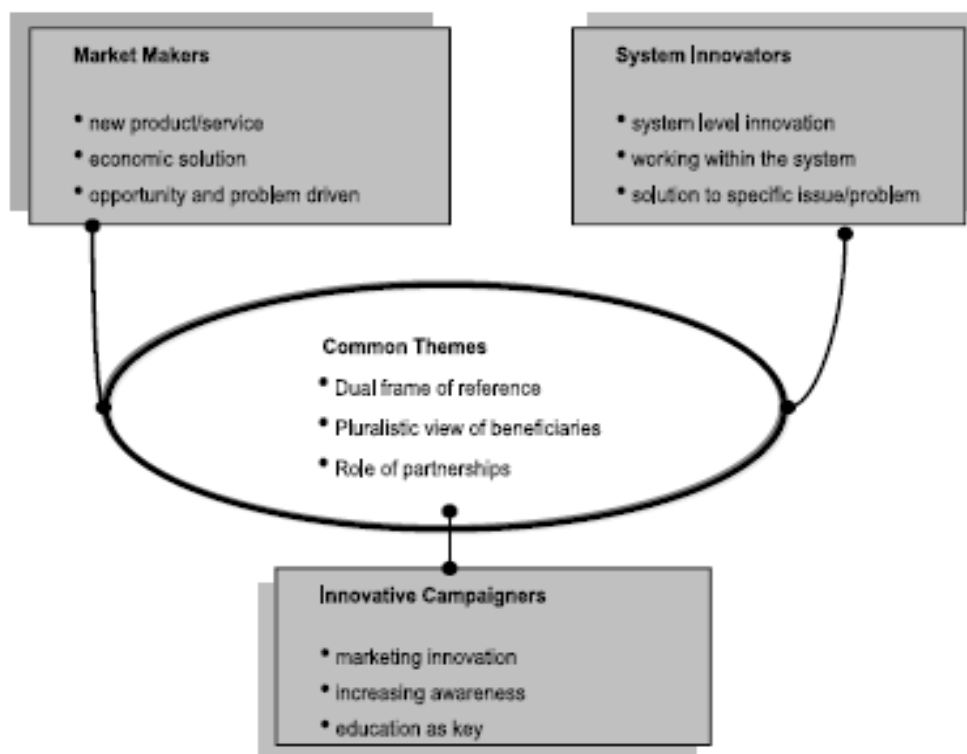


Fig.1. How social entrepreneurs create and sustain social value.

Source : Chamu Sundaramurthy et al; (2013)

There is significant social entrepreneurship activity in emerging economies, however as regards developing economies including India, it is scarcely researched. The purpose of this research paper is to generate a deeper understanding of how social value is created in India. The paper also documents case study, which documents an innovative solution to the problem of sanitation and public health, through social enterprise. The insights from this case, illustrate how social entrepreneurs successfully blend social and economic priorities.

## **BACKGROUND OF SOCIAL ENTERPRISES IN INDIA**

Rapid developments in the Indian Economy post-liberalization since 1991 have prompted institutions like the World Bank to forecast that India would be the fourth largest economy in the world by 2020 (Budhwar and Bhatnagar, 2009). India develops a vibrant entrepreneurial ecosystem that creates wealth, employment, and economic growth that the country needs. As cited by the Government of India, Finance Resource Department Report (2011), large Indian businesses – both in the public and private sector – have not generated significant employment in the past few decades and are unlikely to do so in the coming decade or two. Public sector employment has declined in the last few years due to the economic uncertainty. A large private sector firms have also been slow in generating employment, which is unlikely to change due to increasing automation, digitization, and productivity gains. For example, the banking sector in India has recorded almost no employment growth in the last two decades despite multifold growth in its revenue and assets. Agriculture employs nearly a half of India's work force, but employment is likely to decline in this sector, due to improvements in productivity.

The distinctive institutional framework, economic and geo-political importance of India, coupled with the issue of poverty and many other environmental and social problems, have made India a particularly important setting from the viewpoint of social entrepreneurs (Chamu Sundaramurthy et al; (2013). India has a varied landscape of regional, sectorial, socio-cultural and political variation; its diversity is evident in the different religions, ethnic groups that co-exist peacefully and the different languages they speak. Indian cultural orientation is heavily influenced by philosophies of Hinduism and Vedanta, Buddhism and Jainism which believes in inclusive and holistic growth of society which encourages social enterprise.

Social entrepreneurship has significantly progressed in India over the last decade and with each passing day a greater number of people are using entrepreneurial skills in building sustainable enterprises for profit and non-profit purposes. Singh S P (2008), has defined social entrepreneurship as “A new look at the people and the potential in India. He further states that, it is an evolving approach for dealing with multifaceted social needs. He further states that , “with its

emphasis on problem-solving and social innovation, these activities blur the traditional boundaries between the public, private and non-profit sector, and also emphasize hybrid models of for-profit and non-profit activities.” Bhatnagar (2008) has also documented a rural woman head(sarpanch), Raj Kunwar Jat who uses novel and practical ways to generate financial capital for her village and sustain social enterprise. The paper documents a case study where the social enterprise not only created a social revolution in the area of public health and hygiene but also ran it as a financially sound organization.

## RESEARCH METHODOLOGY

### *Research Objectives and Methodology*

The broad objective of this research paper is to answer an important question “What are the patterns of social value creation in India? Secondly are these organisations, financially feasible? Thirdly is there any successful Indian experience which can be documented? The specific objectives of the research findings from this research are as given below:

- i. Documenting the complexity of social challenges and possible solutions given by the social enterprise in India
- ii. Assessment of Social enterprises based on their ability to innovate effective solutions to complicated social problems .

Yin (1994) p.13 defines, “A case study is an empirical inquiry that, investigates a contemporary phenomenon within its real life context, especially when, the boundaries between phenomenon and context are not clearly evident.” This statement emphasizes that an important strength of case studies is its ability to undertake an investigation into a phenomenon in its real-life context (Yin, 1984, p. 23).

Qualitative Case study is rich source of data and is an appropriate technique especially to answer “How” and “why” research questions. The data documented in the case study, has been collected using multiple sources and techniques namely research reports, newspaper articles, observation in various SISSO centers. SISSO is not just an organization, but a social movement and a revolution in India.

## **CASE STUDY : SULABH INTERNATIONAL SOCIAL SERVICE ORGANISATION, (SISSO), INDIA**

Sulabh International Social Service Organisation herein after referred to as (SISSO), is one such social enterprise, creating history with 15 million users every day, steady flow of revenues, ever-increasing

demand and expanding geographical reach (Rastogi, 2005), a social movement to provide healthy and hygienic sanitation facility to everybody. But SISO is not about community toilets only – it's a social revolution, freedom from detestable social customs of discrimination based on caste & creed, very dominant in the Indian society. It also put an end to the shameful practice of defecation in open spaces, eradication of the inhuman practice of manual scavenging and liberation of scavengers engaged in this occupation end of spread of contagious diseases and epidemics, boost to non-conventional energy sources, enormous employment opportunities, educational institutions - including multiple schools and vocational training centers, a toilet museum in the heart of national capital of India, mention in United Nation's World development Reports, multiple national and international awards, presence in thousands of cities, and invitations from various countries to design and develop the sanitation system for respective nations.

## **BACKGROUND OF SISO, INDIA**

According to UNDP Report, 2007, More than, 65 % of the Indians did not have access to toilets. The practice of defecation in open spaces was very prevalent, especially in rural areas. In addition, there were dry toilets, which are cleaned by human scavengers and the human excreta was carried on the head by scavengers. They had been forced into this humiliating practice for generations and treated as untouchables (harijans) for centuries. In the year 1993, the Indian parliament passed "Adoption of the employment of manual scavengers and construction of dry latrines (prohibition) act, 1993". This law prohibits the practice of construction of dry toilets and human scavenging. However, 10 states (Rajasthan, Jammu and Kashmir, Himachal Pradesh, Uttaranchal, Kerala, Meghalaya, Nagaland, Manipur, Arunachal Pradesh, and Mizoram) have still not adopted this act as of 2006. (UNDP Report, 2007). Further, according to 2001 census of India, there were 6.9% households (4.5% in rural area and 13% in urban area) with service latrines, which require human scavenging. (UNDP Report, 2007). In India, as many as 50 diseases are caused by lack of proper sanitation, affecting over 80% of the population. These include intestinal, parasitic, infectious diarrhea, typhoid and cholera. Further, women have to go for defecation before dawn or after dusk, which implies suffering in the daytime. The school drop-out of female child is also very high, as toilet facility in schools is barely available.

The lack of sanitation resulted in a disastrous impact on public health, particularly in the highly stratified Indian society where scavengers belonged to the backward caste. Bindheshwar Pathak, PhD, created Sulabh International Social Service Organisation (SISO) in 1970, to liberate scavengers in India by employing low-cost, safe, sanitation technology. Within four and half decades, SISO has built a commercially viable business model, while also makes a social transformation through sanitation (UNDP Report, 2007). Further, by 2006, it liberated 60,000 people from lives as scavengers. It

has also developed 26 different toilet designs for varying budgets and locations and trained 19,000 masons who could build low-cost, twin-pit toilets using locally available materials. Local municipal governments in India engaged SISO to build toilets in public places, and some state governments even offered loans and subsidies to individuals to build toilets at their homes (UNDP Report, 2007).

SISO has installed more than 1.4 million toilets in households and 8,000 public toilets in 25 states and 3 union territories of India, for the year ended 2015. Maintaining public toilets on a pay-and-use basis was a natural extension of SISO's mission. The idea was to overcome the constraints in scaling up the sanitation and hygiene (Rastogi, 2009). The public toilets or community complexes targeted the sanitary needs at public places, otherwise marked by filthy and poorly built municipality toilets. SISO also created awareness regarding the crucial role of sanitation as a basic need amongst the various communities, viz., slum dwellers, rural population, pilgrims, etc., by building community complexes operating on the pay-and-use basis (Rastogi, 2009). Further, according to the said author, SISO public toilets are used by 15 million users every day. The word (Sulabh), has become a generic name for public toilets. SISO also provides mobile toilet van facility at a nominal payment, which is sought by large fares and at occasions of public gatherings. This number of service-users is matched only by the Indian Railways in the entire world.

SISO has expanded its network internationally. It has branches operating in Bhutan and Afghanistan. In Kabul (Afghanistan) the construction of five public toilet complexes is nearly completion. Besides, many countries have sought guidance, consultancy, and services from Sulabh. Some of these countries are Nepal, Indonesia, Mozambique, Kenya, South Africa, Ethiopia, Uganda, and Burkina Faso. SISO, however, is no longer about public toilets only. It has adopted a holistic development approach for the under-privileged. Other SISO initiatives include public schools and vocational training for scavengers, slum welfare program, empowerment of women through education and employment, toilet museum, research and development in sanitation, training for NGOs, and international consultancy for sanitation. It has built a Sanitation University, on the outskirts of the capital of India, Delhi.

## **SOCIAL TRANSFORMATION --- THE SISO APPROACH**

While SISO started out as an organization providing sanitation solutions to the individual households and communities, the technological adaptation of two-pit pour-flush toilet for the rural and urban poor areas. This two-pit-pour-flush toilet was a viable alternative to scavenging which could be implemented at a large scale due to its affordability, suitability to usage in Indian condition, requirement of less water and space, and easy maintenance. With this toilet design, SISO could dream of creating awareness about hygiene and community health among the masses.

Despite the long cultural legacy of caste system, SISO attempted to provide a model in which scavengers could be spared of the inhuman work of scavenging (while engaging in less inhuman activities related to sanitation). In 1986, SISO initiated training and rehabilitation programmes for scavengers' children.

## **BUSINESS MODEL OF SISO**

Mr. Pathak, social entrepreneur, began the enterprise with his own funds and also borrowed INR 50,000 (US\$1,150) from friends and family and started the company. His first order came, in 1973, from a municipal corporation in Bihar. In 1974, he got the state government's nod to build toilets on a large scale using the SISO design, which was a unique design, costing only INR 500 (US\$ 11) and a deluxe model of toilets for residences costing, INR 30,000 (US\$ 750). This was possible as the household toilets were subsidized by state government (half the amount paid by households and half by the state government). The income from this source accounts for INR 250 Million (US\$ 5 million) as of 2015.

Secondly in community complexes, public toilets were built, under the public-private partnership model. State government provided funds through the local authority for building the toilets where the money and land belonged to the municipal corporation. SISO built the toilets and then charged a fee for its operations and maintenance. Here SISO used the PWYW pricing strategy, and charged a nominal INR 1/- to 2/ (1 cent) for a single use, which roughly translates into a revenue of INR 550 million (US\$ 10 million) per annum.

SISO also has been innovative in garnering funds for their various projects from agencies like World Bank, UNICEF, UNDP, WSCC, USAID as well as national and state governments of India and local agencies. SISO presently seeking help from billionaires across the world for funding his ambitious plan for safe and accessible toilets for every household in India. Mr. Pathak, plans to raise USD 2 billion for a new sanitation movement in India, by appealing to the affluent Indians. With the help of 690 affluent people, he hopes to finance public toilets to 690 districts of India.

## **CHALLENGES FOR SISO**

*Influencing the public policy framework:* There is a strong inter-connection between sanitation and public health, between water availability and sanitation standards, and a public policy to incorporate all three under its fold. Earlier, there was a lack of clear public policy framework governing public health, sanitation, and water policies, which was the key reason for underlying poor performance by the Indian Government on the sanitation front (Goyal and Gupta, 2009). Nirmal Bharat Abhiyan was re-structured into Swachh Bharat Mission with two sub-Missions - Swachh Bharat Mission (Gramin)



and Swachh Bharat Mission (Urban). The two missions will fall under the Union Ministry of Drinking Water and Sanitation (for Rural) and the Union Ministry of Urban Development (for Urban). The Swachh Bharat Abhiyan (Clean India Programme) and Nirmal Bharat Abhiyan (Pure India Programme) was announced by Prime Minister of India Narendra Modi on Indian Independence Day & launched on 2 Oct 2014. The objectives of Sulabh are in alignment with this movement, where the objectives are similar, which includes, Construction of individual, cluster and community toilets; elimination of open defecation; creating awareness for use of latrine.

According to the Government Of India, Planning Commission statistics (2014), earlier, only 22% of the rural families had access to toilets in 2001. With the efforts put into the Total Sanitation Campaign/Nirmal Bharat Abhiyan (NBA) this has gone up to 32.70% as per Census 2011. Further as per NSSO 2012, 40.60% rural households have toilets. All rural households are planned to be covered with sanitary facilities by 2019. Physical achievements made during last 2 years and current year SBM (Gramin) is demand driven scheme hence no annual targets are fixed. Achievements made under SBM (Gramin) during last two years and current year is as under:

Component	2012-13	2013-14	2014-15 (Upto 31.10.2014)
Household toilets	45,59,162	49,76,294	13,70,347
School toilets	76,396	37,696	8,748
Anganwadi toilets	36,677	22,318	3,325

Source: *Ministry of Drinking Water and Sanitation, Government of India*

Figure 2: Present Status of Household Sanitation

As per the estimates, the unit costs for toilets will be enhanced for Individual Household Latrines (IHHLs) (from INR 10,000 to INR 12,000), school toilets (from INR 35,000 to INR 54,000), anganwadi toilets (from INR 8,000 to INR 20,000) and Community Sanitary Complexes (CSCs) (from INR 2,00,000 to INR 6,00,000). According to the GOI Planning Commission statistic, 2014, the proposed investment of INR 1.34 lakh crore (US\$ 20061 Million) for rural areas and INR 62,009 crore (US\$ 935 Million) for urban areas over the next five years. Part of these funds would be made available by the Government and rest will come from private players. Sulabh can use this opportunity to increase its reach and revenue through this programme.

**Leadership Challenges :** Dr. Bindeshwar Pathak is a charismatic leader and the key source of inspiration for the organization. His dedication and commitment to the sanitation sector is unparalleled. He however, needs to create future leaders and managers who would share his passion and dedication towards the mission of the SISSO (Goyal and Gupta, 2009).

**Creating awareness and recognition of the importance of sanitation:** Marketing the product through education and informing the common man about the importance of sanitation and hygiene and

health. Government has also launched a programme which promotes building toilet for every daughter and daughter –in law, in every rural household, will strengthen and widen the reach of SISO products in rural areas. ( Goyal and Gupta,2009).

## CONCLUSION

This paper broadens existing knowledge on social enterprises in India, especially a unique business model which promotes an innovative product of public utility at a subsidized rate and garnering funds from operation through PWYW pricing strategy and reaching the Base of the Pyramid(BoP) consumers. A case study of SISO was used to document the social transformation which was silently brought about, with innovative business model that serves millions of underprivileged citizens of India, generating social and economic change. Further, governmental and non-governmental organisations have also taken a more leading role to encourage social entrepreneurship and provide sanitation and hygiene to all at a subsidized rate. It is important to have public – private partnership in such projects that are focused on long-term social revolution. SISO demonstrated the positive effects on social change, public health and empowerment of underprivileged section of society.

## FUTURE RESEARCH

Future research should aim at understanding whether rural communities have changed their attitude towards sanitation and hygiene due to SISO. A longitudinal survey is essential to evaluate user and non-user's attitude and their perception towards SISO in furthering social revolution.

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## SUSTAINABILITY AND SOCIAL RESPONSIBILITY IN THE FOOD INDUSTRY. FOCUS ON INGREDIENTS MARKET.

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### ABSTRACT

Companies today operate in an environment and socio-economic complex contest.

The fast transformations in the environment and strong hyper-global competition, have led companies to hire an economic-social role within the environment.

With the enlargement of the market the concept of corporate social responsibility becomes an essential factor for the development of the enterprise.

In the light of these considerations, this article aims to show how, acting within the food business are claiming new methods of approach to the target market.

In particular, it aims to highlight the market of food ingredients, which is a highly complex market. Companies operating in this sector, are driven to create new strategies of action based on the principles of sustainability and responsibility to society.

It is necessary to highlight how this trend is wanted not only by companies but by the final consumers; which they are predisposed to buying decisions that involve ethical and moral aspects of a packet. Using a further questionnaire to validate this hypothesis.

**Keywords:** *globalization, the food market, the ingredients market, sustainability, social responsibility, food supply chain, new strategies for action.*

### INTRODUCTION

Globalization is a phenomenon of composite nature, which not only reduces the sphere of economic transactions but which embraces the systems of society, culture and politics of the whole world. Companies will need a crash course in becoming market-oriented and customer-driven. They will have to establish new strategies, structures, system, and internal cultures in order to survive.<sup>1</sup> Despite

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<sup>1</sup> KOTLER P. (1990), Globalization - Realities and Strategies, Die Unternehmung, Vol.44, No2, pp 79-99

the attention of scholars and the public opinion about it has been emphasized in recent times, this phenomenon is rooted in the past.

Anthony Giddens (1999), defines globalization as the global interconnection (the cultural levels, political and economic) that results from the elimination of barriers.

This paper has as objective to putting them in light as in the food industry, particularly in the market for food ingredients; the issue of corporate social responsibility will become more and more important. A theme that has emerged in recent years is related to responsibility: in particular we refer to the mode of making the company the more responsible in order to meet the needs of its customers, ensuring financial income to investors and promoting social development in competitive space in which it is present.

Sustainability, social responsibility and supply chain are the main drivers of the companies operating in the food sector. Taken together, these paradigms are expanding the range of action of companies useful for the construction of a more united economic system, based on the principle of sustainability.

This reality is confirmed by consumers who increasingly operate their choices not based only on the cost-benefit ratio, but promote ethical and other attitudes social type.

The consumer, therefore, makes a choice of belonging rewarding the company with which it shares the social, ecological and political choices facing the community.

## **GLOBALIZATION AND ITS INFLUENCE IN THE FOOD INDUSTRY: FOCUS ON FOOD INGREDIENTS MARKET**

In conditions of hyper competition the firm aims to make "more off the same, only faster, better and cheaper than competitors"<sup>1</sup> focusing on the environment and in particular on competition to predict, curb and react to his moves.

In this context quite complex, the food sector has shown a substantial "sealing" which highlighted its counter-cyclical qualities.

However, it must be stressed that in recent years from the end of 2007, the world market of agricultural commodities and food prices have been characterized by a strong surge and a subsequent fall in prices. Such oscillations have accentuated the situation of uncertainty and competitiveness of the industry.

The economic importance of the food industry in Europe is remarkable. In fact, it is the first manufacturing industry in terms of turnover.

The following graph shows the change in the sales of some countries in the European Union; demonstrating that the structure of the food sector in these countries is significantly different.

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<sup>1</sup> V.J.K. Johansson, "Global Marketing", McGraw-Hill International, 2006, p.55

Member State	2015 Q1 / 2014 Q4 (% change)	2015 Q1 / 2014 Q1 (% change)	Q1 2015/Q1 2014 (% change)
EU	-0.6	0.8	-0.6
Austria	1.0	-0.4	0.7
Belgium	-2.1	-1.9	-2.5
Bulgaria	0.4	5.3	6.2
Czech Republic	-0.4	2.4	1.1
Denmark	-1.5	1.1	-0.7
Estonia	-2.0	-3.6	-2.5
Finland	-2.9	-0.3	-2.0
France	-0.1	0.3	-0.2
Germany	-1.7	0.0	-3.5
Greece	1.5	0.5	0.5
Hungary	1.0	5.1	7.2
Ireland	2.3	0.2	5.4
Italy	0.7	2.0	1.8
Latvia	-0.1	-0.6	-5.3
Lithuania	2.1	-2.7	-7.9
Netherlands	-0.3	3.4	2.7
Poland	0.3	0.2	-2.9
Portugal	0.7	0.2	-1.8
Romania	2.1	1.2	4.1
Spain	-1.8	3.8	0.9
Sweden	-1.7	-3.1	-6.4

**Picture 1** - Change in food and beverage sales by country<sup>1</sup>

Despite a fall in consumption in the food industry due to the prolonged recession, the value of the food ingredients market was valued at \$ 66.4 billion in 2014 and is expected to grow at an annual rate of 5.5% from 2015 to 2020.

Article one of the objectives is to highlight the issue of responsibility in the food ingredients market (B2B market). Companies operating in this sector contribute to their welfare due social responsibility enterprise; their economic growth is directly related to the development of social relations with the environment.

The key factors driving growth of the global food ingredient industry include escalating global population, changing demographics and growing demand for packaged food and beverages and the corporate social responsibility.

## CORPORATE RESPONSIBILITY IN THE FIRM-ENVIRONMENT RELATIONSHIP

In the global context created, businesses operating in the field of food ingredients must better manage their interactions with the environment. The interaction between business and the environment can be defined as a relationship of Exchange, mutual influence with changes and developments over time.

The company presents itself as a system immersed in multiple environments identified in:

- micro-environment, divided into transactional and competitive environment, characterized by the set of variables that affect the operations of the company

<sup>1</sup> Source: European Food and Drink Industry, Economic Bulletin, 2015

- macro-environment composed set of external variables over which the enterprise has no chance to act as political, legislative, social, cultural and economic.

In recent years the relationship between the environment, social and ecological aspects considered, and the enterprise has become an increasingly important theme in which the company is treated as an active player interested in proper environmental management.<sup>1</sup>

The growing importance of this issue led to the person in charge of involvement in environmental protection and a redefinition of its management structure.

There are several contributions left by scholars in which he emphasizes the need to monitor continuously the environmental characteristics and implement dynamic management systems in relation to these changes. Among the many scholars who have analyzed this relationship, include: Gino Zappa which, within its scientific production, assigns a considerable role to the concept of environment and its dependency on the part of the enterprise; not only is one of the first scholars of his time he reevaluates the static nature of the environment and its influences on entrepreneurial actions.<sup>2</sup>

At the same time, Pietro Onida argues, following the thought zappiano, that "this mutability of the environment is reflected in any sort of enterprise" highlighting the social influences of corporate activity in the environment.<sup>3</sup>

Other significant contribution is that of Pasquale Saraceno which recognizes the possibility for the company to change its external environment through a series of actions to make compatible the environmental situation with the act of the company.<sup>4</sup>

Thanks to the literature, you can then define how corporate responsibility is a useful tool to assess and monitor the interactions between the environment and business.

It is useful to stress that this tool has an effect both on the internal management of the company that arise with ethical and social behaviors and actions, both outward with the need to enhance the corporate image and obtain the consent of consumers and to all external stakeholders.

Businesses and individuals that are moving in the direction of environmental protection show that there are many organizational choices needed to develop a unique commitment throughout the company.

## THE EVOLUTION OF THE CONCEPT OF CORPORATE SOCIAL RESPONSIBILITY

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<sup>1</sup> Source: "La responsabilità dell'impresa. Per i trent'anni di giurisprudenza commerciale", Giuffrè Editore 2004

<sup>2</sup> G. Zappa, Le produzioni nell'economia delle imprese. Tomo Primo, Giuffrè, Milano, 1956, p. 312.

<sup>3</sup> P. Onida, Il bilancio di esercizio nelle imprese, Giuffrè, Milano, 1951, p. 33

<sup>4</sup> P. Saraceno, La produzione industriale, Libreria Universitaria Editrice, Venezia, 1970.

Many are scholars of management that showed over the years interest in the corporate social responsibility; but only in the years '50s CSR joined fully in the academic literature.

The first major contribution goes back to 1953 by Bowen (1953), the first comprehensive study on corporate social responsibility refers to the businessman.

According to the author, the social responsibility of businessmen refers to "the obligations of the businessman to pursue those policies, to make those decisions and to follow those lines of action that are desirable in relation to the goals and values of our society".<sup>1</sup>

In the following decade, reshape the international academic debate on corporate social responsibility and form different schools of thought.

At the end of the '70s was a very important moment, characterized by the proliferation of CSR definitions. On the one hand, we developed the neoclassical theory, according to which the social interest is profit and whatever compromise the efficiency of the enterprise represents an unnecessary cost. Simultaneously the first studies were proposed that shared the premises of stakeholder theory and viewed the enterprise as the bearer of duties against a number of parties. The leading exponent of neoclassical theory was undoubtedly Friedman, that "there is one and only one social responsibility – to use its resources and engage in activities designed to increase its profits so long as it stays within the rules of the game, which equates to argue that compete openly without resorting to deception or fraud".<sup>2</sup>

Of the decade 1980-1990 we must mention an important contribution; Drucker offers a new perspective on CSR, stating that liability can be seen as an economic opportunity for profitable for business. The author identifies the existence of a positive correlation between corporate social responsibility and business.

In more recent years has been consolidated in the debate on corporate social responsibility the link between this concept and to sustainability.

The concept of "sustainability" as it is known was first introduced in 1987 by the Brundtland Report of the United Nations. In this analysis, the concept of sustainability was defined as "development that meets the needs of the present without compromising the ability of future generations to meet their own needs".

In recent years, then, as pointed out in the previous paragraph, it can be seen as the firm is part of an environment with which it interacts and is influenced and therefore increases the interest about the nature of these interactions.

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<sup>1</sup> H. R. Bowen, *Social responsibilities of the businessman*, Harper, New York, 1953

<sup>2</sup> M. Friedman, *The social responsibility of business is to increase its profits*, *Journal New York*, pp. 122-124, 1970



## THE NEW CONSUMER

The theme of responsibility has received, especially in recent years, significant attention from food companies and consumers. As mentioned earlier, it is important to emphasize that this trend is wanted not only by businesses but also by final consumers.

The goal of this research is to find the new variables that influence consumer buying decisions.

As said previously, it has been confirmed by an empirical investigation based on a qualitative and quantitative methodology.

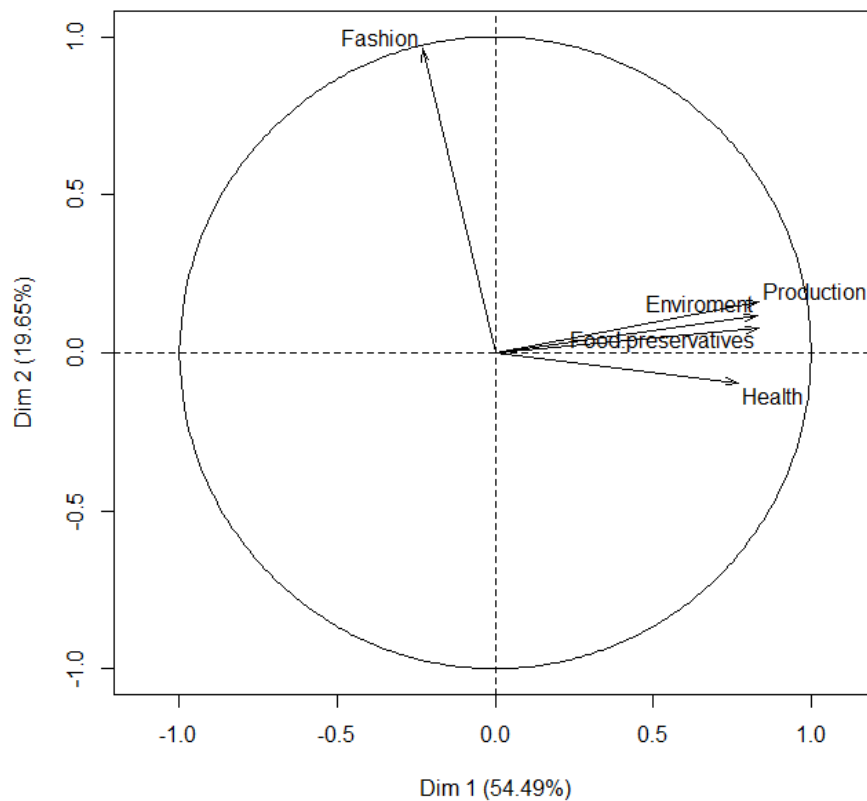
Broad questions were built mainly to answer closed, seeking to deepen the growing importance new variables that drive consumer choices.

The questionnaire is tested through word of mouth, social networking and online forums regarding the sector analyzed, it was divided into several sections.

The survey is aimed at studying the consumer with specific questions in order to identify, understand their needs, expectations, habits and preferences. The statistical sample that responded to the questionnaire consists of 66.7% of women and 33.3% of men, total responses amounted at 187.

In particular, with regard to the objectives of this article, it is useful to clarify that the variables that drive and that influence consumer buying choices have been identified: environment, protection, preservatives, fashion and health.

These values were used to see if there could be a particular correlation and verify which of the options listed above, are mainly related and those that are less so.



**Table 1** – The drivers that influence purchases<sup>1</sup>

The PCA chart shows us substantially the correlations between the various options.

The aim was to figure out which variables are in close correlation and therefore influential consumer buying behaviour. It can be seen as producing, preservatives and environment variables are strongly related to each other and at the same time are correlated with health but not with the same intensity that they have between them.

These variables can be summarised in the search by consumers of food obtained through quality production not to mention the respect for the environment.

One can therefore argue that the importance attached by the consumer to just one of these variables ensures the same importance as the other variables considered, precisely because they are related to each other. Regarding the variable fashion, we can affirm that in relation to the variable health appear to be inversely related (who looks more fashionable doesn't consider the salutary effect of a food).

<sup>1</sup> Source: Authors's elaboration

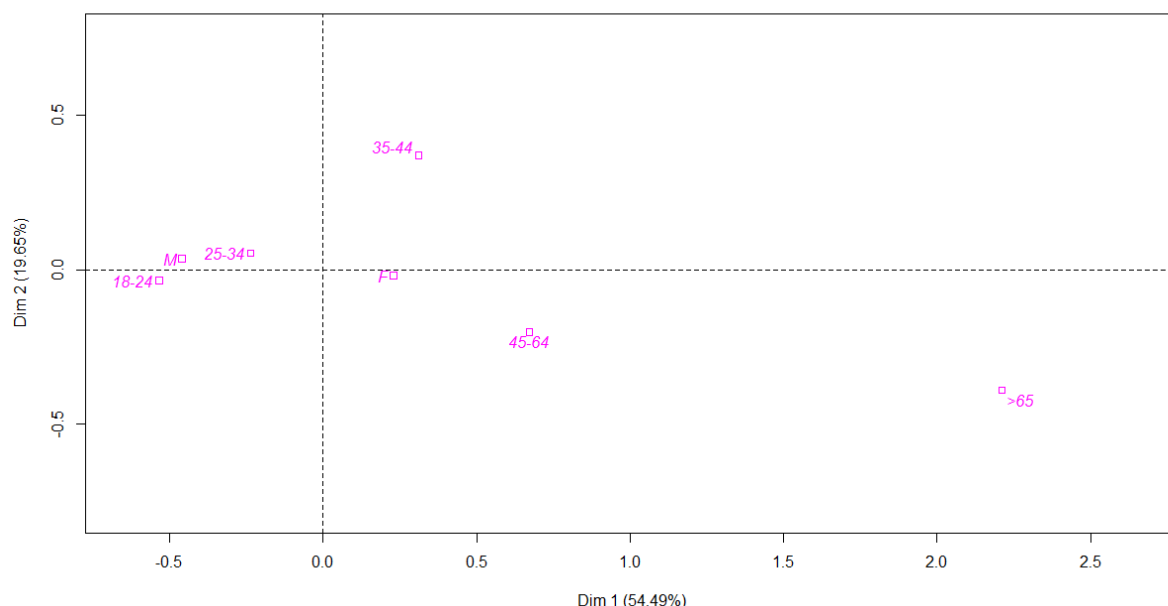
Finally, according to the PCA methodology arguably preservatives and fashion are as independent as can be seen from the graph form a right angle.

The second PCA was performed taking into analysis the sex and age of the respondents.

As can be seen from the graph females (black dots) are located further to the right than men, this demonstrates that women, main purchasing managers, are affected most to the peculiar characteristics of foods such as naturalness and quality.

Also, considering the age of respondents, we can see from the chart as people aged from 45 years of age are those that take into account the size that runs from left to right of the graph above and seek the assurance of a quality product.

Clearly it can be assumed that this preference of these variables requires a larger budget. In conclusion, this poll, with subsequent statistical analysis, allowed to better analyze what ought to be the characteristics of the food in front of consumers who are increasingly knowledgeable and competent. In addition, this analysis gives help and clarification about the composition of the market not only the institutions but also individual companies operating in this sector.



**Table 2 – Interviewees<sup>1</sup>**

The questionnaire results represent a possible starting point of analysis to readers about the consumer orientation towards new paradigms.

<sup>1</sup> Source: Authors's elaboration

## **SOCIAL AND RESPONSIBLE BUSINESS INCREASES THE TURNOVER**

The theme of corporate social responsibility (CSR) has become a topic of interest to the community. The European Commission (EC) on 25 October of 2011 has defined CSR as “corporate responsibility for their impact on society”.<sup>1</sup>

By this definition of CSR from the European Commission wants to push companies to focus their attention on a new way of doing business; incorporating the maximization of profit with the desire to play an active role in the context in which they operate.

This concept of CSR must go far beyond the simple compliance with any applicable laws, but the development of CSR practices should lead to business growth (Brino 2014).

Until a few years ago seemed a theme contrasting with the business, now it has become an integral part.

Here is that CSR becomes a useful tool capable of creating different types of value for a multitude of actors<sup>2</sup>:

- for employees: assuring them better working conditions and increasing their well-being;
- for vendors: through a logic of co-operation and sharing of objectives and values;
- for customers: by maximizing their well-being but also through the adoption of an ethical process of production;
- for the community: taking an active part in society through the development of activities aimed at environmental protection.

## **CONCLUSION**

In a highly complex environment, the company is confronted with an environment, which changes unpredictably. The company is called to play a productive role in response to the different needs of demand and the welfare of the local community in which it resides.

Corporate responsibility, understood as a commitment by the company to the environment in which it operates, has effects on both the internal and operational management and towards external social actions to maintain and increase the consensus of all stakeholders.

It's clear that this issue is important not only for businesses operating in B2C but is considerable even for companies operating in a logic of B2B.

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<sup>1</sup> Taken from the Green Paper "promoting a European framework for corporate social responsibility" of 2001.

<sup>2</sup> For further information please visit: Tantalus C., R. Priem, Competing for stakeholders: toward them to more context-sensitive theory of business sustainability ", accepted in the Journal of Managament Studies," The Foundations of Sustainability "conference, Burleigh Court, Loughborough, 27th-29th September 2010.

In the questionnaire proposed in the paper, it was possible to highlight how the issue of social responsibility is a sensitive issue for final consumers.

It should be stressed that whatever the competitive situation in which the company develops, both B2B and B2C, to have huge success is not enough that the firm is proficient from the production point of view, but it is also very important that it be accepted by society.

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## PERFORMANCE OF VIX INDEX AS A TOOL FOR VOLATILITY FORECASTING IN BULL AND BEAR MARKETS

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### ABSTRACT

This paper explores the information content and the forecasting power of the VIX index, computed by CBOE. As a benchmark, the forecasting performance of VIX is compared to the Garch (1;1) model and historical volatility. The total period of 20 years taken into consideration (January 1995-December 2014) is split into two sub-periods, precisely before and after March 2006. This is when the trading of option contracts having as underlying VIX index began. By comparing the two sub-periods, we can judge if the information content of VIX increased after becoming a negotiable asset.

Furthermore, we carry out a specific analysis of the determinants of forecasting errors made by VIX. In particular, we explore the dependence of these errors on the level of realized volatility and the trend of prices (bull vs. bear market).

The results of the analysis are not clear-cut. The VIX index shows strong information content, but is an upward biased forecast of realized volatility. When comparing VIX to Garch and historical volatility, the former is dominant, but only when the outlier period of the sub-prime crisis is excluded from the sample. The information content of VIX seems unaffected by the event of becoming the underlying of option contracts. The errors made by VIX are more pronounced in market phases characterized by high volatility and decreasing prices, highlighting a dependence of its forecast ability on market dynamics.

**Keywords:** *VIX, historical volatility, Garch models, forecast ability, information content*

### INTRODUCTION

Estimating volatility is one of the main goals of academicians and practitioners in the financial field. Forecasts of future price variability are needed to make funding or investment decisions, to value financial instruments, and to measure the risk of a portfolio. Not surprisingly a vast empirical and theoretical literature focused on this topic, proposing new methods for estimating volatility or comparing the effectiveness of techniques already in-use. In particular, our work belongs to that stream of literature which explores the merits of implied volatility (IV) measures, i.e. volatility measures

derived from option prices. From a theoretical point of view, these measures could be superior to other types of estimates because they reflect market expectations instead of deriving from a statistical model or from historical returns. In fact, IV is often indicated as a forward-looking measure. In the following sections we will briefly review the literature on the topic and explain our incremental contribution to this literature (section 2), describe the methodology adopted by the study and the features of the sample (section 3) and present the results of our empirical investigation (section 4).

## LITERATURE REVIEW

As already mentioned above, the literature concerning volatility measurement is rich and extensive. One stream of literature compares various volatility-forecasting methods by pitting one against the other. Typically the expected volatility estimated through different alternative methods is used as independent variable to explain realized volatility, i.e. the dependent variable. The information content and forecasting power of the expected volatility measure are judged by looking at the significance of the beta coefficient and by testing the null hypothesis that the coefficient is equal to 1 and the intercept is equal to zero. The relative forecasting power of different volatility measures are analysed by including them concurrently in a regression and by comparing the coefficients of the various independent variables.

Poon and Granger (2005) examined 93 studies structured in this way and published during a 20-year period. Their overall conclusion is that option-implied volatility most frequently provides better forecasts than time-series models. Among the most influential empirical studies dealing with option-implied volatility, it is worth mentioning Jorion (1995). Focusing on the currency market, he finds that implied volatility outperforms statistical time-series, even when these are given the advantage of *ex post* parameter estimates. However, IV appears to be a biased volatility forecast. Similarly, Fleming (1998), Ederington and Guan (2002), Szakmary et al. (2003), Corrado and Miller (2005) find that IV dominates historical volatility despite being an upward biased forecast. Shu and Zhang (2003) reach the same conclusion, using four different measures of realized volatility, characterized by increasing complexity. Martens and Zein (2004) confirm the superiority of implied volatility, compared to time-series models, while showing that long memory models based on high-frequency data are able to equal and, in some cases, beat IV forecasting performance. Day and Lewis (1992) find that implied volatilities derived from S&P100 index options contain incremental information when added as an exogenous variable to Garch and E-Garch models, but they are unable to draw precise conclusions as to the relative predictive power of Garch forecasts and implied volatility to *ex post* volatility.



Canina and Figlewski (1993) sharply confute the papers commented so far. Indeed, they find that implied volatility derived from S&P100 index options has no correlation at all with future volatility. However, a few years later, Christensen and Prabhala (1998) strongly criticize the method of this study, attributing the peculiar results reported to a problem of overlapping data that was not adequately managed. By solving the issue, the authors confirm that implied volatility outperforms historical volatility in forecasting future volatility, even providing stronger evidence compared to previous studies. Further confutations are made by Becker et al. (2007) who find that the VIX index does not contain incremental information, when compared to a combination of model-based volatility forecasts. As in the study conducted by Canina and Figlewski (1993), this empirical study presents a problem of overlapping observations. Moreover, the authors do not directly compare VIX forecasts against any single model-based forecast but to quite a complicated combination that would be difficult to use in day-by-day practice. Thus, the contribution is merely theoretical.

The most recent contributions focus on comparing the performance of different models across different asset classes, different financial markets and in different market conditions. Kourtis et al. (2016) compare the forecasting power of implied and GARCH volatility at an international level, taking into consideration 13 equity indices from 10 countries. Browless et al. (2011) compare a set of models belonging to the ARCH family on a wide array of assets with the aim of comparing not only their forecasting power, but also their ability to cope with a crisis period such as the 2008 turmoil. Charoenwong et al. (2009), focusing on the foreign exchange market, compare the predictive power of implied volatility derived from exchange-traded and over-the-counter options, concluding for a superiority of the latter.

Among the empirical works described, our study is mostly in line with Christensen and Prabhala (1998) and Shu and Zhang (2003). However, we introduce a few variations that represent our specific contribution to this field of literature:

- we do not derive implied volatility from one or more ATM near-to-maturity options, as commonly done in literature, but we directly use the VIX index calculated by CBOE, which is based on OTM options and is characterized by a constant average time-to-maturity of 22 trading days;
- similarly to Shu and Zhang (2003), we use four different methods to compute the ex-post realized volatility, characterized by increasing levels of complexity;
- the long and varied period covered by our time series allows to draw some conclusions about the effectiveness of different volatility measurements in different market conditions;

- we provide evidence of the effect of VIX options trading on the information content and effectiveness of the index;
- we check the effect of multi-collinearity when comparing the information value of different volatility measurements, whereas most studies do not directly address the problem.

Furthermore, we carry out a specific analysis of the determinants of forecasting errors made by VIX. In particular, we explore the dependence of these errors on the level of realized volatility and the trend of prices (bull vs. bear market).

## METHODOLOGY AND SAMPLE

As briefly synthesized before, our paper aims to explore the information content and the predictive power of the VIX index. We investigate relations between implied and realized volatility and assess whether the VIX index is a better predictor of future volatility, compared to historical and Garch-based volatility measurements.

In the analyses, we use the daily closing prices directly calculated by the CBOE, which represent the implied volatilities of S&P500 over the next 30-day period (22 trading days). The time horizon of our analysis is a twenty-year period, from January 1995 to December 2014, divided into two sub-periods, before and after March 2006, which represents the date when the trading of options on the VIX index began. By comparing the two sub-periods, we can judge if the information content of VIX increased after becoming a negotiable asset.

We initially run a univariate regression, considering the realized volatility as dependent variable and the VIX index and the others methodologies based on historical data as independent variable. For brevity, this kind of analysis is not reported, but its results are essentially in line with those obtained in the successive analysis and with the dominant part of previous studies.

Afterwards, following the main stream of the literature on this topic, we include both implied and historical volatilities in a multivariate regression, estimating the following equations:

$$RV_t = \alpha + \beta Vix_{t-1} + \beta SMA_{t-1} \quad (5)$$

$$RV_t = \alpha + \beta Vix_{t-1} + \beta EWMA_{t-1} \quad (6)$$

$$RV_t = \alpha + \beta Vix_{t-1} + \beta GARCH_{t-1} \quad (7)$$

Where:

VIX = Volatility index computed by CBOE; SMA = simple moving average, computed on 22 most recent daily returns of S&P500 Index; EMWA = exponential moving average computed on 22 most recent daily returns using as decay factor calibrated on the historical return on the three previous years; GARCH: volatility computed with a Garch (1;1) model with parameters calibrated on 5 years of historical returns for the model applied in the entire period and calibrated on 3 years for the ones used in the two sub-periods.

Now two problems need to be overcome: overlapping data (Canina and Figlesky 1993, Christensen and Prabhala, 1998) and possible errors in the realized volatility measurement. To address the first issue, for each period we consider the VIX price of the day following the measurement of the realized volatility, which will be calculated again after 22 trading days.

To manage the second problem we test four different measurements, gradually more accurate, of realized volatility, namely the standard deviation, the Parkinson extreme value estimator (1980), the Roger and Satchel estimator (1991) and the Yang and Zhang estimator (2000), and we run regression analysis for each of the different measurements of realized volatility, considered in turn as dependent variable.

Though the majority of the studies on this topic does not deal with the multi-collinearity problem that might arise when the VIX index and a measure of historical volatility are entered in the same model, we prefer to face this issue by computing and evaluating the Variance Inflation Factors (VIF). In fact, a potential imperfect collinearity between these two variables cannot be ruled out *a priori*. In this regard, it has to be mentioned that few abnormal observations registered in the heart of the financial crisis, from September 2008 to April 2009, identified both with the leverage measure and Cook's distance, have been excluded from the regressions in order to reduce the multi-collinearity effect.

To conclude the analysis of the first research question, we analyse the determinants of the forecasting errors made by VIX defined as follows:

$$ER_t = \sigma_t - VIX_{t-1} \quad (8)$$

Table 1 provides some descriptive statistics for the volatility estimation methodologies used in the following analysis. Despite the critical market phase during the years 2008-2009, mean and median values do not present significant differences among the periods analysed, remaining quite similar even when the entire sample is split into two sub-samples. Indeed, the only elements that prove the stressed conditions characterizing the second sub-period (2006-2014) are the larger standard deviation of each estimation method, the maximum values, which are considerably higher, and the higher root mean

square errors (RMSE) that indicate more difficulties, compared to the previous period, in predicting the realized volatility.

The higher mean and median values registered by the Volatility Index in all period analysed seem to suggest an upward bias of VIX index that might incorporate a greater weight given by investors to the occurrence of low frequency – high impact losses. It is also worth noting – at this preliminary descriptive level – the higher RMSE associated to the VIX in the second sub-period (2006-2014) which contains the subprime crisis and which is consequently characterised by higher peak values of volatility.

Volatility estimators for the period 01/1995-12/2014						
	Mean	Median	Minimum	Maximum	Standard deviation	Root mean
VIX	20,54%	19,61%	10,05%	80,06%	8,41%	7,363%
GARCH	16,24%	14,08%	7,72%	58,65%	7,68%	7,124%
SMA	16,56%	14,48%	5,39%	80,76%	9,74%	7,172%
EWMA	16,67%	14,52%	6,09%	74,43%	9,46%	6,878%
Volatility estimators for the period 01/1995-02/2006						
	Mean	Median	Minimum	Maximum	Standard deviation	Root mean
VIX	20,29%	20,18%	10,77%	37,52%	6,31%	6,598%
GARCH	11,66%	10,95%	8,59%	21,75%	2,78%	7,458%
SMA	15,94%	14,64%	5,84%	44,92%	7,35%	6,368%
EWMA	16,16%	15,02%	6,14%	40,27%	7,17%	6,171%
Volatility estimators for the period 03/2006-12/2014						
	Mean	Median	Minimum	Maximum	Standard deviation	Root mean
VIX	20,76%	17,66%	10,05%	80,06%	10,51%	8,328%
GARCH	16,51%	13,50%	8,26%	61,28%	9,54%	7,771%
SMA	17,33%	14,24%	5,39%	80,76%	12,06%	8,355%
EWMA	17,30%	14,27%	6,40%	74,64%	11,67%	7,769%

Table 1. *Descriptive statistics for the entire period 01/1995-12/2014 and for the two sub-period 01/1995-02/2006 and 03/2006-12/2014.*

## RESULTS

In order to present our findings in a clear way, this section is organized in three steps. We initially run a bivariate regression in order to compare the information content of both VIX and the historical methods by entering them as independent variables in the same regression. This part of the analysis is quite standard in the specific literature. The following two steps provide some innovations to the previous

studies dealing with collinearity problems and deepening the analysis of the factors bearing on the forecasting errors made of the VIX.

### 1. Comparison between the predictive power of the various estimation methods

As first step of our analysis, we pitted the Volatility Index against historical and Garch-based volatility to test for a supposed superiority of implied volatility.

Tables 2 and 3 present the results of this analysis. In particular, they only report the results obtained using EWMA, but an unreported robustness check made by substituting EWMA with SMA confirms the evidence. Focusing on the entire period, the values of the  $VIX_{t-1}$  coefficients, which range from 0,3739 to 0,9113, are higher than the historical methodology ones, and indicate a better forecasting ability for volatility derived from option prices. This evidence is confirmed in all regression, regardless of the method adopted to measure realised volatility.

When we split the sample using March 2006 as divide, the evidence is strongly confirmed in the first sub-period 01/1995-02/2006 where the higher forecasting ability of VIX surfaces once again. In particular, this sub-period differs from the entire one only for the slope coefficients of the historical estimation techniques that are not statistically different from zero, thus confirming the superiority of VIX which even subsumes the information of EWMA and Garch-based volatility.

The analysis of the second sub-period, instead, provides evidence of a weak forecasting performance for the VIX index, especially when compared to the EWMA. Surprisingly the coefficients of EMWA are higher in all the measurement methods considered and VIX coefficients are not significantly different from zero. Thus, basically, the information content of IV is subsumed by the historical volatility. The Garch estimates too, in this specific sub-period, retrieve predictive power, although the clear superiority of one estimation method over the other cannot be observed. Order relations are variable and depend on the measuring techniques analysed; moreover, the differences between coefficients is not large enough to argue which presents the better performance.

Dependent variables for the period 01/1995-12/2014				
	$\sigma_{Dev.std}$	$\sigma_{Park}$	$\sigma_{R\&S}$	$\sigma_{Y\&Z}$
Intercept	-0,01323	0,00722	0,01496*	0,009609
	(0,0116)	(0,0092)	(0,0086)	(0,0089)
$VIX_{t-1}$	0,6876**	0,4561**	0,3739**	0,4351**

	(0,1157)	(0,0915)	(0,0857)	(0,0886)
EWMA <sub>t-1</sub>	0,2269**	0,2099**	0,2444**	0,2401**
	(0,1030)	(0,0815)	(0,0764)	(0,0789)
N	227	227	227	227
Adjusted R <sup>2</sup>	0,62	0,5832	0,5822	0,6071
F(3, 224)	34,07	182,74	235,27	179,58
Dependent variables for the period 01/1995-02/2006				
Intercept	-0,01757	-0,005486	0,002497	-0,001501
	(0,0151)	(0,0121)	(0,0112)	(0,0116)
VIX <sub>t-1</sub>	0,8427**	0,6169**	0,5330**	0,5897**
	(0,1246)	(0,0992)	(0,0924)	(0,0953)
EWMA <sub>t-1</sub>	0,03215	0,08877	0,1323	0,1172
	(0,1094)	(0,0871)	(0,0811)	(0,0837)
N	126	126	126	126
Adjusted R <sup>2</sup>	0,5651	0,5706	0,5772	0,5908
F(3; 123)	36,21	144,39	180	144,2
Dependent variables for the period 03/2006-12/2014				
Intercept	0,01080	0,02042	0,02826**	0,02287
	(0,01842)	(0,01458)	(0,01367)	(0,01417)
VIX <sub>t-1</sub>	0,3649*	0,2231	0,1291	0,1988
	(0,2135)	(0,1690)	(0,1584)	(0,1642)
EWMA <sub>t-1</sub>	0,5011**	0,4096**	0,4472**	0,4427**
	(0,1921)	(0,1521)	(0,1426)	(0,1478)
N	101	101	101	101
Adjusted R <sup>2</sup>	0,6273	0,5925	0,5865	0,6158
F(3, 98)	10,48	64,56	87,57	63,42

Table 2. Regression models for the different measures of realized volatility, assuming as independent variable the VIX level and the historical volatility computed by the exponential weighted moving average (EWMA)

Hence, the results obtained for the second sub-period seem to contradict the evidence that characterizes the entire 20-year period and the first sub-period. During the years 2006-2014, characterized by extreme volatility values caused by the financial crisis originated by the Lehman Brothers' bankruptcy, the forecasting ability of VIX closely resembles that of the various historical estimation methods and, therefore, it is not possible to judge which of them possesses better predictive power. Only the exponential moving averages seem to dominate the implied volatility. The evidence is even more surprising when we consider that the trading of option contracts on VIX should have increased – not reduced – its information content and forecasting power.

Dependent variables for the period 01/1995-12/2014				
	σDev.std	σPark	σR&S	σY&Z
Intercept	-0,02294**	-0,001702	0,004625	-0,0005701
	(0,0109)	(0,0086)	(0,0082)	(0,0084)
VIX <sub>t-1</sub>	0,9113**	0,6530**	0,5942**	0,6558**

	(0,1083)	(0,0859)	(0,0811)	(0,0836)
GARCH <sub>t-1</sub>	0,009463	0,02104	0,03561	0,02969
	(0,1188)	(0,0943)	(0,0890)	(0,0918)
N	227	227	227	227
Adjusted R <sup>2</sup>	0,6117	0,5709	0,5634	0,5911
F(3, 224)	31,76	175,38	221,93	169,6
Dependent variables for the period 01/1995-02/2006				
Intercept	-0,01961	-0,01561	-0,0144	-0,01605
	(0,0188)	(0,0150)	(0,0139)	(0,0144)
VIX <sub>t-1</sub>	0,8657**	0,6482**	0,5667**	0,6225**
	(0,1085)	(0,0865)	(0,0806)	(0,0832)
GARCH <sub>t-1</sub>	0,02177	0,1552	0,2694	0,2298
	(0,2457)	(0,1959)	(0,1824)	(0,1883)
N	126	126	126	126
Adjusted R <sup>2</sup>	0,5648	0,5692	0,5756	0,5893
F(3,123)	36,16	143,77	179,15	143,5
Dependent variables for the period 03/2006-12/2014				
Intercept	-0,007084	0,005648	0,01217	0,006873
	(0,01678)	(0,01332)	(0,01258)	(0,01301)
VIX <sub>t-1</sub>	0,5568**	0,3904**	0,3096*	0,3818**
	(0,2088)	(0,1658)	(0,1565)	(0,1619)
GARCH <sub>t-1</sub>	0,3916*	0,3078*	0,3386*	0,3303*
	(0,2299)	(0,1825)	(0,1723)	(0,1782)
N	101	101	101	101
Adjusted R <sup>2</sup>	0,6129	0,5747	0,5623	0,5949
F(3, 98)	8,87	60,46	56,23	58,43

Table 3. *Regression models for the different measures of realized volatility, assuming as independent variable the VIX level and the historical volatility computed by a GARCH(1,1) model*

## 2. Analysis of collinearity problems and identification of outliers

In order to deepen the understanding of the contrasting results obtained for the first and the second sub-periods, we deemed it necessary to analyse a potential problem of multi-collinearity that could affect the coefficients' estimates when two volatility measures are jointly used as independent variables in the same regression. To this end, we computed the Variance Inflation Factors (VIF) for the three different volatility forecasting methods during the analysed periods.

First of all, it is important to underscore the fact that all VIFs are lower than the critical value usually accepted, which is ten. However the sub-period 03/2006-12/2014 is characterised by VIFs very close to their critical value and this raises the doubt of a potential misinterpretation in evaluating the relative forecasting ability of different methods based on the above regressions. The significant gap between the VIFs computed in the first and second sub-period could be potentially related to the existence of some

extreme observations that characterize the period 2006-2014 and that might have a significant influence on the tested relations between the different estimation methods.

In order to reduce the collinearity problem, we re-ran all regressions using a different sub-sample that excludes the outliers identified using the leverage influence measure and the Cook's distance applied to the original regressions. In particular, these analysis led to the identification of 7 outliers, all located in the period September 2008 – April 2009. Indeed, for all the variables studied, the new “polished” sub-samples present considerable reductions in the VIF that halve their values. The reduction in VIFs, excluding the volatility peak reached during the years 2008-09, confirms the initial hypothesis that these observations have a significant impact on the relations examined.

Table 4 refers only to second sub-period (2006-2014), showing the results of the regressions based on the revised sub-sample. Excluding the outliers from the data, the implied volatility dominates both Garch and EWMA volatilities in terms of predictive power, and their contribution becomes statistically non-significant.

These results, which are more consistent with previous literature on the topic, confirm that the volatility implied in the option prices, which directly reflects market expectations, better approximate actual market movements. However, our empirical evidence highlights as well an inability of VIX to capture correctly extreme market movements as already surfaced, at a descriptive level, when observing the values of RMSE in Table 1.

Dependent variables for the period 03/2006-12/2014				
	$\sigma_{Dev, std}$	$\sigma_{Park}$	$\sigma_{R\&S}$	$\sigma_{Y\&Z}$
Intercept	0,01214	0,02702*	0,02993**	0,02752**
	(0,01891)	(0,01425)	(0,01273)	(0,01343)
VIX <sub>t-1</sub>	0,7045**	0,4147**	0,3782**	0,4357**
	(0,2068)	(0,1558)	(0,1392)	(0,1469)
EWMA <sub>t-1</sub>	0,04052	0,1042	0,1035	0,09344
	(0,1938)	(0,1461)	(0,1305)	(0,1377)
N	95	95	95	95
Adjusted R <sup>2</sup>	0,4139	0,3742	0,3931	0,4129
F(3,90)	16,40	95,75	135,64	99,61
Dependent variables for the period 03/2006-12/2014				



Intercept	0,01093	0,02366*	0,02666**	0,02457*
	(0,01798)	(0,01356)	(0,01213)	(0,01279)
VIX <sub>t-1</sub>	0,7498**	0,4486**	0,4343**	0,4892**
	(0,2074)	(0,1565)	(0,1399)	(0,1476)
GARCH <sub>t-1</sub>	-0,008319	0,08642	0,05656	0,04738
	(0,2440)	(0,1841)	(0,1646)	(0,1736)
N	95	95	95	95
Adjusted R <sup>2</sup>	0,4136	0,3722	0,3897	0,4104
F(3,90)	16,38	95,35	134,72	99,07

Table 4. *Regression models for the different measurements of realized volatility for the subperiod 03/2006-12/2014, excluding the outlier*

### 3. Factors bearing of VIX forecast errors

The lower predictive power of VIX during the most turbulent market phases, as stated in the previous section, seems to indicate a bias in its forecast ability that is more pronounced in the market downturns. This evidence prompted as us to try and analyse more in depth the determinants of VIX forecasting errors. In particular, we used as independent variables the levels of realised volatility and the market return, both at time  $t$  and  $t-1$ . The first two columns of the table show the regressions in which the realized volatility is used as sole explanatory variable. As hypothesized, the forecast errors are greater when the realized volatility is higher, suggesting that the investors' expectations might provide an error of over/underestimation related to their possible disproportionate reactions in particularly turbulent market phases.

It is more interesting to observe the specification (2) in which the past realized volatility is added as independent variable, since it significantly increases the coefficients of determination. Taking into account the fact that the realized volatility at time  $t$  maintains the greatest weight in determining the predictive errors of VIX, the minus sign acquired by the coefficients of lagged volatility seems to indicate that they are higher when the previous volatility is lower. This evidence indicates that VIX is unable to capture sudden surges in market volatility, notwithstanding its forward-looking nature.

Dependent variables for the period 01/1995-12/2014					
	(1)	(2)	(3)	(4)	(5)
Intecept	-0,09533**	-0,06901**	-0,03505**	-0,03431**	-0,07269**
	(0,0068)	(0,0048)	(0,0033)	(0,0033)	(0,0060)
$\sigma_t$	0,3349**	0,7547**			0,2030**
	(0,0352)	(0,0339)			(0,0313)
$\sigma_{t-1}$		-0,5789**			
		(0,0338)			
Return <sub>t</sub>			-0,7182**	-0,7205**	-0,2275**
			(0,0624)	(0,0624)	(0,0960)
Return <sub>t-1</sub>				-0,08457	
				(0,0624)	

$\sigma_t^* \text{Return}_t$					-1,041**
					(0,2351)
N	228	227	228	227	228
Adjusted R <sup>2</sup>	0,2826	0,6874	0,3667	0,3692	0,5228
Dependent variables for the period 01/1995-02/2006					
Intercept	-0,1011**	-0,07097**	-0,04108**	-0,03937**	-0,09270**
	(0,009)	(0,007)	(0,004)	(0,004)	(0,009)
$\sigma_t$	0,3544**	0,6507**			0,3144**
	(0,051)	(0,048)			-(0,049)
$\sigma_{t-1}$		-0,4847**			
		(0,048)			
Return <sub>t</sub>			-0,4608**	-0,4808**	-0,237
			(0,085)	(0,085)	(0,231)
Return <sub>t-1</sub>				-0,1567*	
				(0,085)	
$\sigma_t^* \text{Return}_t$					-0,5905
					(1,100)
N	127	126	126	125	126
Adjusted R <sup>2</sup>	0,2763	0,6008	0,1841	0,1994	0,3807
Dependent variables for the period 03/2006-12/2014					
Intercept	-0,08933**	-0,06119**	-0,03020**	-0,03052**	-0,05373**
	(0,01160)	(0,006801)	(0,005289)	(0,005357)	(0,009313)
$\sigma_t$	0,3162**	0,8524**			0,1033**
	(0,05501)	(0,04791)			(0,04604)
$\sigma_{t-1}$		-0,7008**			
		(0,04781)			
Return <sub>t</sub>			-0,9196**	-0,9230**	-0,3041*
			(0,08869)	(0,08921)	(0,1660)
Return <sub>t-1</sub>				0,08797	
				(0,08922)	
$\sigma_t^* \text{Return}_t$					-1,154**
					(0,3286)
N	101	101	101	100	101
Adjusted R <sup>2</sup>	0,2426	0,7604	0,5158	0,5156	0,5978

Table 5. Regression model for the forecast errors made by the VIX, assuming as independent variables the standard deviation and the return of S&P500

The next two columns report the regression results in which the impact of the stock index return size on predictive errors was tested. All the periods studied present significant negative relations between the magnitude of errors and the market return, suggesting that in bear phases, such as the years 2008-09, the loss in the predictive power of VIX is more sizeable, thus explaining the divergence of empirical results that characterizes the sub-period 03/2006-12/2014 whether the heart of the post-Lehman crisis is included or not.

In order to assess the joint effect of these variables in greater detail, the last column includes the interaction between standard deviation and index return. Consistently with the above results, with the sole exception of the first sub-period, its slope coefficients indicate negative relations between the interaction term and the forecast error. The error made by VIX tend to be more pronounced in market phases characterized by high volatility accompanied by market downturns, highlighting a difference

in its forecasting ability that is directly linked to market dynamics. It is a valid element especially in the sub-period 03/2006-12/2014 where, indeed, the size of the coefficient of this variable is greater, confirming once again the singularity of the results obtained for the period 2006-2014 on the full sample.

## CONCLUSIONS

The main aim of this study is to investigate whether the Volatility index is able to predict future realized volatility and what the corresponding information content is. Consistently with mainstream literature, our results point out that VIX is a biased estimator of realized volatility, although its ability to explain a considerable portion of realized performance allows it to dominate the other methods based on historical data. Despite the possibility of taking a direct stand in terms of expected volatility by introducing options contracts written on VIX, the information content of this index has not changed significantly. By directly analysing the predictive power of VIX against other methods based on historical data, the superiority of VIX is confirmed in the entire period and the first sub-period, while the second one is characterized by results that are not clear cut. These differences between the two sub-periods prompted us to deepen our analysis in an attempt to explain them. In particular, we found collinearity issues that affect the results in the period 2006-2014, and are basically caused by the presence of some abnormal observations during the most volatile market phase that started in September 2008. Leaving out these outliers, indeed, the empirical evidence is consistent with the previous studies, confirming the better predictive power of VIX.

Furthermore, our results show that the loss in predictive power of VIX is related to market conditions. Its predictive errors are generally bigger when a bear phase is accompanied by high volatility, suggesting that a volatility measure based only on investor expectations could be affected by biased reactions to market shocks.

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## THE ROLE OF CITIES IN DECENTRALIZATION OF NATIONAL POLICIES ON SCIENCE, TECHNOLOGY AND INNOVATION

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### ABSTRACT

This paper discusses decentralization of national public policies on Science, Technology and Innovation (ST&I) from the federal to the city government. Governments around the world have been supporting companies and innovation ecosystems because of their relevance to economic viability and national sustainable development. However, despite the increasing political, social and economic relevance of cities worldwide, their role has been underestimated in national ST&I policies. In this context, this study considers how municipal decentralization of national ST&I policies enhances capillarity, efficiency and the strengthening of regional systems of innovation. The study offers empirical evidence of intergovernmental relationships of decentralization through the case studies of two Brazilian cities: Porto Alegre and São Leopoldo, which were selected because of their comparatively good results in promoting companies and ecosystems of innovation in comparison to other Brazilian cities. The main conclusions of the study are: (a) federal government public policy promotion in ST&I remains crucial to the development of entrepreneurial technologically-based ecosystems; (b) municipalities are capable of mobilizing resources, structuring incentive mechanisms, articulating actors, and organizing governance systems; (c) decentralization via municipalities can improve capillarity and effectiveness, strengthening regional innovation systems and consequently complementing national ST&I policies; (d) increased political and economic power of city governments can promote improvements in federal policies of ST&I.

**Keywords:** *Regional Economy; Knowledge Economy; Science and Technology Management; Public Policies; Federative Decentralization; Technology Based Ecosystems.*

### INTRODUCTION

This paper examines the role of cities in decentralization of national public policies on Science, Technology and Innovation ecosystems (ST&I) from the federal to the municipal level in the Brazilian context. The paper contributes to the characterization of a model for policies and management at the municipal level in the enhancement of ST&I. In knowledge economies, cities have been acquiring

renewed economic, social and political relevance. To some extent, they are recovering the historic concept of world-cities like Venice (1378-1498), Florence Genoa (1557-1627) and Amsterdam (1585-1773). However, unlike the past, today's global cities are integrated into networks. Many of them, although physically distant, are connected by instant digital communication, creating an unprecedented dynamic/momentum (Sassen, 1999).

In a network society, nations must adapt their powers and responsibilities as they will become increasingly dependent on technology-based companies to access products and services with the potential of fostering development (Sambamurthy et al., 2003). Since the 80's, knowledge has been an important factor in explaining the disparities among countries beyond the traditional factors of capital and work. Developing countries that have adopted policies of ST&I promotion are those that have progressed more rapidly in recent years showing that this is a vast and complex challenge that can be met through a large political mobilization for science (UNESCO, 2010). Accordingly, governments throughout the world have been supporting technology companies as a way to maintain competitiveness in an increasingly global economy (Barragat Andrade, 2009). Countries, including developed ones, support technology companies in many ways, such as through governmental policies in strategic areas and through infrastructure projects, where the State assumes part of the technological risk (Mazzucato, 2011).

In Brazil, national public policies on ST&I, despite clear improvements, are still excessively centralized at the federal level, which limits capillarity, efficiency and strengthening of ST&I. An alternative is decentralization, which implies the transfer of federal functions to regional levels. In health and education, this process has been recognized for its positive results. However, one does not observe further initiatives of decentralization to the municipal level to improve the national ST&I ecosystem. In this context, this paper aims to contribute with propositions for the role of the cities in national policies to support ST&I ecosystem improvement. Specifically, this article discusses the role and responsibilities of the federal and municipal governments in the public management of ST&I.

In the following sections, we highlight key aspects of studies that support the assumption of the new economical relevance of cities in a knowledge economy; then, we present aspects about federative decentralization and the regulatory frameworks related to the public ST&I policies. Finally, we explore the data on the cases of the two Brazilian cities, which have shown comparatively good results in promoting ST&I ecosystems as compared to other Brazilian cities. As the final considerations, we present propositions to create a model for decentralization of ST&I public policies to the municipal level.

## **CITIES IN THE KNOWLEDGE ECONOMY**

In the 50's, the idea of regional development was based on the economic theories of the agglomeration factor in Perroux's (1982) theory of the *regional pole* and in Myrdal's concept of *cumulative circular causation* (1960). These theories considered that the installed base is the main stimulus for attracting new ventures. For decades, the concept of the *regional pole* has defined regional development policies where the growth of a local cluster irradiates itself to a whole region (Perroux, 1966). This model has inspired the construction of industrial districts in various parts of the world between the decades of the 50's and 80's, including Brazil (Monasterio, 2011; Paiva, 2004).

Accordingly to Thisse (1986), economic activity is not concentrated at a single point, nor is it distributed spatially in a uniform way. Instead, it is distributed unevenly, creating places more developed than others. Natural resource availability can determine economic concentration. However and more fundamentally, there are economic mechanisms of trade-off between various forms of growing returns *versus* different mobility costs (Thisse, 1986). The author proposes reasons for the existence of a great variety of well-succeeded local agglomerations in a globalized economy.

Theories differentiate between the concepts of regional and economic space. Region refers to a continuous territory delimited by geographical boundaries. Economic space, on the other hand, deals with scattered poles interconnected by networked economic affinities, as described by Castells (1999). According to this author, contemporary society is built around flows: capital flows, information flows, technology flows, organizational interaction flows, and flows of images, sounds and symbols. Castells' "flows" means a functioning society network, made of entities (network nodes) and relationships (links between nodes).

Some Californian economists explain the agglomeration of urban regions (metropolitan *regions*) through lower *transaction costs* (Scott *et al*, 2001). The city regions could be the privileged locus of a new worldwide economic order. The studies partially follow the tracks of Peter Hall ("worldwide cities") and Saskia Sassen's works of early 90s ("global cities"). All of them consider the spatiality of economic activity and embeddedness of economic analysis linked to the notion of territory. For Sassen (1999), economic urban agglomerations not only are not dismantled by globalization but also become increasingly central to modern life.

On one hand, the concept of *economic region* is explanatory for development, considering the achievement of externalities through regional integration of productive chains, including overcoming the *trade-off* between scale gains and transportation costs. On the other hand, this concept seems less explanatory in a knowledge economy, in which transportation costs are irrelevant to support the industry's competitiveness and the availability of a knowledge workers class grows in importance, which emerges in urban concentrations with high mobility. Thus, in the understanding of the *economic space* notion, it is worthwhile to highlight the growing relevance of cities and their connection to the

knowledge economy and to essential resources of a creative class of knowledge workers (Florida, 2008). A skilled worker can change jobs from a local company to one in a distant country without leaving his desk. The modeling of a knowledge economy, for instance, must consider a unique dichotomy, where labor mobility has two dimensions: the “*hypermobility*” of the teleworking capacity (Sassen, 2009) and the physical mobility of the individual himself (Florida, 2008). With this perspective, Weiss (2006) explains the virtuous spiral of the knowledge economy cities by the “principle” of *critical mass*, a phenomenon characteristic of urban centers, which simultaneously concentrates many people with great expertise (vertical competence) and a plethora of diversity in complementary knowledge (horizontal competence). This “*wide range of highly specialized skills mixed together*” in cities generate productivity and innovation corresponding to up to 85% of GDP in developed countries.

Sassen (2009) studied the trends that created the agglomeration of cities with strong insertion into the knowledge economy, according to three axes. The first results from the outsourcing of large corporate services of “heavy” economies (mining, factories, chemical industries, transport systems, construction and agriculture, among many others). They increasingly need highly specialized outsourced services such as insurance, accounting, legal services, financial, consulting, computerized system suppliers and so on. The companies that provide these outsourced services need scale and resources, including specialized people, who are most abundant in large urban centers, giving rise to the concept created by Sassen: “*urban knowledge capital*”. The second reason causing urban concentration is the new communication technologies, transport and Internet. These technologies might suggest, in a more obvious manner, centrifugal forces of decentralization, such as teleworking in urban offices, which tends to produce a movement of people from the center to the periphery. Paradoxically, there are forces, which lean towards centralization. In the opposing direction, the facilities of remote management allow that a greater number of companies may expand activities in other distant places in search of factors of knowledge economy: new markets and specialized people. In short, the more powerful the new technologies are the greater the distant management capability is; therefore, the easier it is to extend operations globally, creating new centers of density and centrality. The third axis is the principle of critical mass or scale. The *mix* of companies, talent and *expertise*, covering a wide spectrum of knowledge fields, make the city a complex center of strategic information exchange, subject to uncertainty, lack of structure and complexities. The city becomes an intense and dense center of a certain type of information exchange that cannot be fully replicated in the virtual space and requires face-to-face contact. These ties of talented people and unforeseen and unplanned information exchange add value in a virtuous cycle that produces higher-order information in a continuous and feedback process. This dynamic environment allows people to find information they did not know



they needed. Cities promote unscheduled, spontaneous and random meetings as a “coffee room effect” (Fu, 2007). The more concentrated the agents are, the more “luck” they will have in accessing the “cafeteria type of information” and, therefore, the greater the dissemination of new knowledge in the local cluster.

“If the 19<sup>th</sup> century was the century of empires and the 20<sup>th</sup> century was the century of the nations, the 21<sup>st</sup> century will be the century of the cities”, summarized Wellington Webb, the mayor of Denver (Scrimger and Jubi, 2000). In 2008, for the first time in history, most people in the world began to live in cities (United Nations, 2008). As cities grow, they occupy more than ever a central place in the world, with greater economic, political and technological power. Thus, the challenge of governments at all levels (municipal, state, federal), including transnational, is increasingly to solve the problem of cities. According to Bloomberg (2011), the mayor of New York, one cannot wait for national government decisions; cities are vulnerable on the front line because national governments are not doing what they should do. Therefore, cities need new income sources and a more dynamic economic matrix. They need to attract business, to face a competitive global economy, as well as to provide an effective and sustainable infrastructure (Dirks and Keeling, 2009), attracting technology-based business as a strategy to boost their economic matrix.

Despite globalization, which has increased commonalities in everyday living for much of the world regardless of one’s location, it has never been as important to choose the city where you live, almost as much as one’s career (Florida, 2008). Fiates (2013) concludes that knowledge economy companies depend much more on ties with local institutions than industrial age companies that can more easily relocate their “production platform”, even to distant sites. The more knowledge-intensive innovation activities are, the greater the need for spatial proximity (Amdam, 2003). “Surprisingly, the more new technologies allow global dispersion of corporate activities, the more they produce density and centrality”, summarizes Sassen (2009), creating economic agglomerations in new urban *clusters*, some of them in countries distant to the companies’ headquarters.

Considering the new role conquered by cities in recent decades, one should think about repositioning them in the national public management policies, especially to support enterprises and technology-based ecosystems.

## DECENTRALIZATION OF NATIONAL POLICIES

Political science has a long tradition of debates and controversies regarding the optimal level of government that should be responsible for decisions and implementation of public policy in support of its citizens. In this debate, “who” does is as important as “what” must be done by the State (Ceneviva, 2010). The work of Hayek (1945) argues that local governments have a more precise,

detailed knowledge of the local population, and therefore are more capable than central governments in providing services to citizens. Tiebout (1956) suggests that decentralization allows each region to offer a package of benefits and taxes, creating healthy competition among them and allowing citizens to choose the jurisdiction that best meets one's expectations and needs. According to this theory in the political economy field, known as *public choice theory*, individuals and governments are rational agents, guided by self-interest and involved in complex interrelationships processes in search of a balance between costs and benefits in order to get them.

Decentralization assumes the existence of a central authority, which deems necessary - or unavoidable - the delegation of their powers to government's sub-national levels in favor of a more appropriate management or in response to sub-national pressures (Duchaceck, 1970). Decentralization also increases the possibility of social participation in local decisions making the government more transparent and "auditable" by their constituents (Oates, 1999). In this same vein, Stuart Mill verified that decentralization promote the citizens' greater political and civil participation, increasing their level of "civic education", helping to choose their representatives and improving the allocations of public resources (Oliveira, 2007).

As Alexis de Tocqueville observed more than a century ago, the federal system was created with the intention of combining advantages at different levels. For this purpose, it is necessary to evaluate which features and instruments are best suited for each level. Thus, decentralization explores, in both normative and operational terms, the roles of different levels and intergovernmental relations between them (Oates, 1999), in pursuit of common goals that would hardly be achieved separately.

Academic literature shows that decentralization can establish a new balancing point in the power asymmetry between both entities federal and municipal as exemplified by the Canadian experience of Keith Banting (2004). When the federal government attempted to cut social spending, provincial governments, realizing that they would be electorally harmed, used their political power to oppose the federal intention (Oliveira, 2007). In the Canadian case, the cuts would have been more likely in the context prior to decentralization. In other words, decentralization created a new balance of power between the federated entities reinforcing the local citizen's interests and giving a leading role in federal policies to the municipality.

A stimulus to the decentralization movements in several countries around the world is the concentration of tax revenues at the federal level. In Brazil, this has reached 58% in comparison to 25.3% for the states and 16.7% for the municipalities. In OECD countries, there also exists tax concentration, respectively, 56,9%, 26,4% and 16,7% (Valenzuela et al.,2015; CNM,2012). Despite the increased political power and social responsibility of cities around the world, the concentration of decision-making at the federal level suggests the need for further discussion on intergovernmental

transfers and a new role for regional entities in national development, both in Brazil and among OECD developed countries.

Despite some operational problems, theoretical elements of federalism and policy practice recommend decentralization, as highlighted by the Washington Consensus: decentralization is good not only for the economy but also for the policy of developing democracies, to bring the government closer to the people, to expand the supply of services and to create "accountability" systems (Stepan, 1999). Financial agencies, such as World Bank and IMF, and the Inter-American Development Bank, constitute important vehicles of global scale dissemination on decentralization (Melo, 1996), presented the following data: in 1980, sub-national governments were responsible for 15% of revenues on average, and 20% of total government spending. In the late 1990s, these figures had risen to 19% and 25% respectively, exemplifying the decentralization progress (World Bank, 1994).

In the following sections, we explore data about Brazilian initiatives regarding decentralization of ST&I, focusing on policies and actions held in two cities that are recognized as pioneers when compared to other Brazilian cities.

## METHOD

We explored primary and secondary data relating to the decentralization process from the federal to the municipal level in two Brazilian cities. These cities were selected based on their achievements in ST&I development. We considered the strong performance of Science Parks as a characteristic of locally-lead ST&I development. Two of Brazil's most successful science parks are located in these cities, according to AMPROTEC's (Brazil's Association Member of the International Association of Science Parks and Areas of Innovation).

The focus in this case analysis was on the federal and municipal policies that have been embedded in the cities' ST&I systems. We compared these policies and highlighted singularities that are relevant to clarify key aspects on municipal governance.

Primary data was collected in interviews with different actors of the federal and municipal ST&I policies. Interviewee selection was based on a *snowball* strategy, where a respondent (or documentary source) pointed to others to explore.

Secondary data was provided by documents from the federal and municipal governments, interviews in the specialized ST&I press around the country, news and official organization's reports like those of the World Bank and UNESCO.

Data was analyzed in a content-analysis approach, considering the dimensions explored in the study.

## POLICIES FOR LOCAL ST&I ECOSYSTEM: EVIDENCE FROM TWO BRAZILIAN CITIES

The decade of 2005-2015 represented great advancements for Brazil's public policies on ST&I, such as a new *Innovation Law* that allowed non-reimbursable funds to companies; a new policy that facilitated using incentives and, albeit timidly, the first decentralized federal program for the Brazilian states (e.g. TECNOVA). Nevertheless, no federal programs on ST&I decentralization have been executed for municipalities, despite the cities' increasing political, economic and social relevance, especially in the formation of business technology-based ecosystems.

Despite the lack of policies oriented specifically towards municipalities, the Porto Alegre and São Leopoldo cases reveal that some initiatives at the municipal governmental level as well as cooperative actions integrating local government, companies and Universities, have favored the enhancement of the ST&I ecosystem. These two cities are located in the same region of Southern Brazil but are different in respect to size, constituencies, cultural background, economic bases, etc. Their similarity is in their well-ranked position on the Human Development Index. In 2013, Porto Alegre was rated with 0,805 (very high) and São Leopoldo with 0,799 (high), positioning these cities in some of the highest ranked positions in the country. Both cities are well served also by higher education institutions and have science parks located within their boundaries.

Another important similarity is the challenge both cities have been facing in respect to their economic bases. São Leopoldo's economy has been based on small machinery companies connected to various traditional industries like footwear and furniture. The decline in competitiveness of these industries mobilized different city stakeholders to create a science park on the campus of UNISINOS university. Porto Alegre, as the state capital, needs to improve its economic matrix with dynamics industries. Consequently, stakeholders in Porto Alegre's ecosystem, as in São Leopoldo, have been challenged to create new strategies based on technology to promote city development.

In the connection with federal policies to support ST&I, both municipalities are similar because a) they support private companies through non-reimbursable financing and b) they practice the direct tax exemption incentive. Both municipalities have demonstrated positive outcomes from their incentive policies to enhance digital ecosystems as shown by the increase of companies and projects at the Science Parks and at their extensions. However, there are differences to highlight when one makes a horizontal comparison between the municipal policies in these two cases, as will be discussed below.

**Management models on incentive concession:** The municipalities have different management models for incentive concessions. In Porto Alegre, the incentive is permitted for any company that provides services listed in the municipal law (ITC, engineering and architecture services). In São Leopoldo, in

contrast, the company must submit in advance a project to city hall for analysis by an expert committee.

On one hand, the prescribed policy has the advantage for companies of cutting bureaucracy, which is particularly important for small businesses such as start-ups, and this policy facilitates transparency and accountability for all stakeholders.

On the other hand, the incentive based on project analysis, as proposed in the São Leopoldo policy, reinforces relationships among the municipality and the benefited companies. This policy also enables the municipal government to better stimulate the development of industry segments and technologies that it considers a priority. This is more difficult when the benefit is granted based on a preconceived policy that has only prescribed in a generic approach the segment or industry to be stimulated. Coincidentally, a report from GCEE (2008) states: “it is the projects that more directly reflect the priorities of the policy”.

**Incentive value and counterpart:** São Leopoldo permits only a calculation-based increase, while in Porto Alegre the incentive is calculated on the entire base, which can mean different values and greater simplicity for companies and for municipality supervision. In contrast, the incentive on revenue increase has the merit of facilitating company growth.

In São Leopoldo, the best incentive levels depend on the counterpart in the form of increased revenue or an increase in the number of employees or subcontracting of one or more of the city’s companies, according to a formula established by law. In Porto Alegre, there is no counterpart requirement to the company that receives the benefit, instead the fulfillment of global targets by the benefited economic sector is required. Negotiation took place with the representative entities of the sector when the law was approved. For computer services, the reference is the sector’s average tax collection for the three previous years (2001, 2002, 2003), which is compared with the average of the subsequent fiscal years to the incentive grant (since 2004). For the engineering sector’s grant, the comparison base was the 2007 tax collection.

*Supervision and Covered sectors:* In Porto Alegre, all participating companies receive an incentive to reduce the Service Tax (ISS) rate at 60% with a reduction between 2 and 5%. In São Leopoldo, this reduction tax depends on a formula, which rewards the increase in the number of employees, a billing increase and/or the increase of the volume of local subcontracting. Complex controls lead to differences in interpretation that may cause problems for the beneficiary companies and complicate municipal supervision.

São Leopoldo’s tax incentive is broader and benefits companies from various sectors. In Porto Alegre the incentive is limited to specific computer, engineering and architecture services, previously defined

by the law, which represents a limitation as when changing laws in response to the dynamics of technology-based activities, the municipality does not necessarily respond in a timely manner.

*Concession period:* In São Leopoldo, the incentive period is of thirty months; in Porto Alegre, indefinitely. This does not mean that the period is truly unlimited because, strictly speaking, the municipality may unilaterally halt the incentive at any time.

In short, determining the best incentive program is beyond the scope of this article, but it is necessary to point out differences and similarities because both municipalities have successful public policies, as evidenced by their technological parks and other indicators. The differences between the two municipalities suggest theoretical considerations of the trajectory dependency, in the sense that the previous choices determine different trajectories even in similar environmental conditions according to Nelson and Winter ([1982] 2005). In complex systems, there is no single best answer.

In Porto Alegre the incentive is limited to some computer services and engineering, previously defined in the law, which can be a problem given to the difficulty of changing laws to monitor the dynamics of technology-based activities.

## FINAL CONSIDERATIONS

This article queried on how municipalities could become an important player in the decentralization of ST&I national policies in order to strengthen regional innovation systems and complement the national system. Aligned with extant studies on the knowledge economy and relevance of cities, we emphasized the importance of the involvement of governments around the world to support the ST&I, the growing importance of the role of cities for regional economies and the strategic importance of federal decentralization for national development.

Based on the evidence presented here, this proposal of decentralization of federal ST&I policy, via municipalities, has as its outset the finding that cities have the potential to enhance and complement the performance capacity of the federal government. The research shows that municipalities are better prepared than the federal government to identify and select relevant local projects, identifying emerging start-ups with potential and for enhancing local technology-based ecosystems.

Research has shown that despite the relevance of federal government agencies and the work done in promoting ST&I for decades in Brazil (agencies like FINEP, CNPq, CAPES), they appear to have limited bargaining power in budget resource disputes in relation to other federal agencies, to which they are subordinate. Thus, the city's inclusion brings with it a new political force to the national innovation system, especially when acting collectively. This new balance of power can intervene in some key aspects of intergovernmental relations (Oliver, 1990), such as: an increase in the national system's *efficiency*, thanks to the operational reach of the municipal authority; the reduction of budget

*instability* of public development policies that tend to fluctuate due to several factors; the increase in *reciprocity* of intergovernmental cooperation and the decrease of asymmetry in power, mainly due to the excessive resources concentrated at the federal entity. A harmonious and balanced relationship promises to achieve mutual benefits, common interests and goals that would otherwise be unfeasible to any of the parties singularly.

Empirical evidence shows that: (a) governmental promotion of ST&I public policy remains crucial to the development of technology-based business ecosystems; (b) the studied municipalities show the capability to mobilize resources, structure incentive mechanisms, articulate actors and organize governance systems; (c) decentralization via municipalities tends to improve capillarity and effectiveness by strengthening regional innovation systems and complementing national ST&I policies; (d) municipalities have the economic and political power to influence the political environment and make adjustments in national ST&I policies, as shown by some recent events.

Observed differences in empirical data from development policies between the two municipalities show the need for flexibility in the adaptation of decentralized national policies to the specificity of different local realities, in accordance with the CGEE (2010). The studied municipalities have trajectories, legal frameworks, institutional arrangements and different systems of governance, with few points of contact. However, both have in common the fact that they are successful in their municipal development policies.

Often cities are the source of nations' major problems such as violence, pollution, water supply, energy, sewage treatment and garbage collection among many others. Paradoxically, they also account for the solution to these major national problems, once they are the center of new technology development and the concentration in critical mass of talents and the raw material of knowledge economy. Therefore, there is room to structure them in order that they are effective protagonists in national public policies of ST&I, energizing their economic matrix and increasing their ability to generate income, jobs and new entrepreneurial opportunities.

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## BUSINESS PROCESS MANAGEMENT: AN INVESTIGATION IN ITALIAN SMES

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### ABSTRACT

The importance of business processes management is widely recognized, even if not uniformly implemented by companies, with significant differences between small and large enterprises. This paper aims at investigating, through a survey by questionnaire, the diffusion of business process management (BPM) in a sample of Italian Small and Medium Enterprises (SMEs), operating in different businesses, due to the relevance of these companies both for Italian economy and for the literature. Different studies provide evidence that the performance of business processes has to be monitored because it has a direct impact on stakeholder satisfaction. Despite this evidence, the few empirical studies that consider the implications of process-focused techniques show no evidence that these techniques are consistently helpful (Benner and Tushman, 2003). It emerges that in SMEs there is a poor adoption of business process management (Ates et al., 2013) and some studies identify the main reasons (Chong, 2014). A key reason for the limited adoption of BPM in SMEs is that vast majority of SME operators are not aware that BPM can help their businesses to increase long-term value (Riley and Brown 2001; Smith and Fingar 2003) and they are too much attached to functional ways of thinking and managing.

The main limit of this work is strictly related to sample actually focused on Italian SMEs: indeed this sample could be enriched with a comparison with other European countries.

**Keywords:** *business process management, organizational structure, small and medium enterprises, Italy.*

### INTRODUCTION

The importance of business processes management (BPM) is widely affirmed by literature and practitioners, even if companies demonstrate to be involved on this topic not with the same intensity. The process management is defined as an approach based on the organization of a company as a

whole set of interconnected activities, which aim to map, improve and align organizational processes (Benner and Tushman, 2003).

In literature it has been underlined that usually small and medium enterprises (SMEs) don't pay particular attention on business processes. This is partially due to the fact that usually SMEs are not aware that business process management (BPM) enables managers to increase long term value (Riley and Brown 2001; Smith and Fingar 2003).

Despite these difficulties, Turner and Bititci (1999) affirm that applying reliability engineering, process thinking and active monitoring concepts to business processes, it is systematically possible to identify key performance measures in order to actively monitor business throughout the company.

This paper aims at investigating with an exploratory purpose the organizational structure implemented in a sample of Italian SMEs, with a particular focus on processes, process management and monitoring activities. We considered this issue relevant both for the practitioners and for the literature, especially in a context characterized by economic crisis, as it indicates a possible perspective to manage competitiveness, and, above all, as we have observed that literature on BPM in SMEs is not particularly articulated. Indeed, as underlined by Ates et al. (2013), there is a gap between theory and practice in performance management in small and medium sized enterprises and it is interesting to investigate how SMEs can develop their managerial practice for effective performance management.

In this article, we firstly looked at the analysis of the theoretical background of business process management in SMEs, drawing particular attention to the main issues of our paper. Next, we outlined our research method and in the following section the discussion of the results is presented together with the conclusion of the work.

## LITERATURE REVIEW

### *SMEs literature*

Small and medium enterprises are a particular set of firms and they have an important role in the economy, indeed, in many countries, they represent over 95% of all businesses, employ around 65% of the workforce and contribute about 25% to GDP (Ballantine, et al. 1998). SMEs are characterised by their size, simple organisation structure, personalized management, communications and procedures are mostly informal or verbal (Jennings and Beaver, 1997). Frequently the owner is also the manager, and despite their having no formal training in management they run the whole enterprise, making all the decisions, financing the business and learning through experience.

The next table summarises the main characteristics of SMEs.

SMEs	
Strengths	Weaknesses
Ability to respond very quickly to changing	Highly vulnerable to slumps in markets

market conditions Waste little time on non-core business activities Tend to have high employee loyalty Reflect the commitment and personality of MD/CEO Likely to deploy improvements quickly and therefore gain rapid benefit Usually very closely in touch with customer Potential for excellent internal communications People are likely to be multi-skilled Operating an effective ISO9000 compliant quality management system Training is likely to be very focussed on skills needed to achieve targets People will usually be aware of how their job impacts on the business.	Funding investment is more difficult Cash flow is crucial May not have time to look at 'outside world' May have difficulty getting good suppliers May be operating an inappropriate quality management system because of customer pressure to be certified to ISO9000 Training budgets are likely to be limited and the wider aspects of people development will probably not be addressed.
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*Table 1 Characteristics of SME.*

*Source: Hewitt, 1997.*

About business management, Ates et al. (2013) found that SMEs are more focused on internal and short-term planning, paying less attention to long-term planning. SMEs reserve too much attention to taxation issues and on the results more relevant for banks (as net income, aging of credits and debts). This is due to the fact that for these kinds of firms, undercapitalized, it's important that banks continue to provide credit (Broccardo, 2014).

In addition, Ates et al. (2013) suggest for SMEs an appropriate, balanced use of strategic and operational practices and relevant measures to make performance management more effective. Therefore, managerial activities such as vision, mission and values development, internal and external communication, change management represent recommended areas for improvement.

In the literature it is often underlined that the managerial capabilities are strictly tied to the use of management accounting tools, but these tools are not so widespread and adopted in the correct way by firms, especially if these are of small and medium size (Aram and Cowen 1990). A performance measurement system has to support the completely decision-making process, not only the financial and taxation areas, and that is why, in the last years, some advanced systems were developed, as business processes management system.

#### *Business Process Management in SMEs*

Processes are collections of activities that, taken together, produce outputs for customers (Ittner and Larcker, 1997; Garvin, 1998), but customers include not only external consumers of a company, but also internal one.

It is possible to have a view of departments with separate functions and outputs as systems of interlinked processes that cross functions and link organizational activities (Dean and Bowen, 1994), observing the processes in a company. The process management is defined as an approach based on the organization of a company as a whole set of interconnected activities, which aim to map, improve and align organizational processes (Benner and Tushman, 2003).

The main phases in process management are as following identified (Benner and Tushman, 2003):

- 1) mapping processes,
- 2) improving processes,
- and
- 3) adhering to systems of improved processes.

The first phases recorded, through process mapping, processes that it is possible to find in a company. The second one investigates if a process meets customer needs, paying attention on customer requirements improvement, not only involving rationalizing individual work processes, but also streamlining the handoffs between processes (Harry and Schroeder, 2000). In this phase organizational participants are trained in effective ways to facilitate cross-functional team, meetings and learn standard approaches for identifying and solving problems. These tools, by design and intent, help integrate and coordinate a broad set of activities throughout the organization (Repenning, 1999).

The third phase ensures that processes are repeatable, allowing for ongoing incremental improvement, and the realization of benefits of improvement efforts (Hackman and Wageman, 1995; Harrington and Mathers, 1997; Mukherjee et al., 1998).

Different studies provide evidence that the performance of business processes has to be monitored, because it has a direct impact on stakeholder satisfaction.

Despite this evidence, the few empirical studies that consider the implications of process-focused techniques show no evidence that these ones are consistently helpful (Benner and Tushman, 2003):

- no relationship between measures of process management utilization and organizational performance (Powell, 1995, Samson and Terziovski, 1999);
- poor financial performance has followed the process-focused efforts necessary for winning the Baldrige Award (Garvin, 1991; Hill, 1993);
- the use of process management techniques associated with increased performance in the automobile, but decreased performance in the computer industry (Ittner and Larcker, 1997).

Indeed, there are many operational difficulties in introducing the process management approach in companies and a study highlights that the failure to deliver consistent output to the stakeholders is caused by the lack of co-ordination between functions (Turner and Bititci, 1999). Despite these

difficulties, Turner and Bititci (1999) affirm that applying reliability engineering, process thinking and active monitoring concepts to business processes it is systematically possible to identify key performance measures in order to monitor business actively throughout the company. In addition, to improve and maintain the reliability of business processes these authors suggest an active monitoring technique.

The organization of most companies is still based on functional units (Beretta 2002) and a study conducted by Bititci et al. (1999) shows that few companies define and manage business processes, but in the last years the approach based on process management became fundamental in the firm management.

The increasing importance of business process management is also emphasized by the new edition of ISO 9001:2000 (Garvin 1998; Ittner and Larcker 1997), which underlines the process management is useful in meeting stakeholder expectations and promoting the integration of the different company functions.

Other studies focus on the importance of process management. De Toni and Tonchia (1996) underlined that process management influence Performance Management Systems (PMS) models. Kaplan and Norton (1996) introduce the process-oriented dimension into PMS models. Bititci et al. (1997) use processes as one of the main starting points in designing PMSs.

In addition Benner and Tushman (2003) stated that the increased attention to process management is also highly relevant to SMEs. PMSs based on business processes can provide information that allows companies to be more proactive in meeting stakeholders' requirements. Since SMEs are small, they have more visible end-to-end business processes, which make process orientation a simpler and less political issue.

The role of BPM in SMEs is to improve customer services and gain greater business insights (Fu et al. 2001) and many BPM applications allow SMEs to monitor and then optimise business processes. However, it is important that SMEs are able to integrate BPM tools into their systems (Chong, 2014). Also Ates et al. (2013) have observed that SMEs have the right features to implement with success the BPM system, that are: *i)* fast decision making; *ii)* high integration of activities; *iii)* employee work ethic. The small size of the organizations leads to a "natural" integration of business activities. People usually work in a business process-oriented manner and in many cases, this integration even crosses company boundaries. However, despite these characteristics, SMEs have difficulties in implementing BPM. Some scholars (Chapman and Sloan 1999; Hossain et al. 2002; Spanos et al. 2001; Chong 2014) underline the reasons of these difficulties:

- 1) SMEs remain attached to functional methods of thinking;

- 2) SMEs are subjected to greater pressure in terms of cash flow constraints, working capital, and a lack of resource allocation potential, which would affect the uptake of BPM;
- 3) SMEs have a smaller number of employees as resources and are less likely to contract out BPM since they are less able to divert employees to BPM processes.

Finally, Chong (2014) states that a key reason for the limited adoption of BPM in SMEs is that vast majority of SME operators are not aware that BPM can help their businesses to increase value (Riley and Brown 2001; Smith and Fingar 2003).

## THE RESEARCH METHOD

### *The research questions and the methodology*

The aim of this research is to understand what are the main features of process management in SMEs, especially considering the Italian context. In particular, the main research questions are:

RQ1: *What is the organizational structure adopted by the company?*

RQ2: *Do SMEs manage and monitor the processes?*

The research methodology was structured around the following phases:

- in the first phase, a literature review on SMEs and process management has been done;
- in the second phase, we conducted an empirical analysis using questionnaires, randomly selecting companies small and medium sized operating in the North West of Italy. We used both qualitative and quantitative approach, analysing the empirical evidence and measuring information. The questionnaire was composed of quantitative and qualitative data, handled by a software and analysed using statistical tools. We collected a significant amount of data, permitting statistical analysis and drawing up generalizations (Zimmerman, 2001). The survey respondents were general managers, with skills in business organization.

Using the data carried out by the questionnaire, we conducted an empirical analysis, based on descriptive statistical tools.

### *The sample*

Our sample includes only active companies with revenues between 5 and 250 million (see Table 2). The starting sample included 3.900 companies, not considering micro-companies and the smallest ones (< 5 mln € of revenues), belonging to different economic sectors (manufacturing, services, trading, craftsmanship, agriculture and farm animals).

We randomly selected 1.800 companies and finally 309 companies returned the filled questionnaire. This final sample, 309 companies, represents the 18% and this response rate is in line with the main literature (Lucianetti, 2006).

Dimensional features	%
Revenues between 5-10 mln €	43.10
Revenues between 10-20 mln €	29.60
Revenues between 20-50 mln €	27.30
Total	100

Table 2. Revenues classes

## FINDINGS

About the first research question “RQ1: *What is the organizational structure adopted by company?*” the collected answers are described below.

Organizational Structure	%
Elementary, without functional articulation	18,9%
Functional areas	58,6%
“Pure” Process based organization	18,9%
Project based organization	15,0%

Table 3: organizational structure

As showed in the previous table, the majority of the sample implemented an organizational structure based on functional areas (58,6%), while processes and projects are not particularly managed. Indeed, project based organization is the less widespread structure, while the elementary and the pure process based organization have been equally adopted by the sample.

As regards the second research question “RQ2: *Do SMEs manage and monitor the processes?*”, we firstly investigated if companies declared to have made some improvement in the structure or organization of processes, in the last five years.

Does the company made some process improvement over the last five years?	
Answers	%
Yes	60,0%
No	40,0%
Total	100,00

Table 4: process improvement

The majority of interviewed SMEs (60%) declared to have made improvements in processes management even if they have implanted a functional organizational structure, revealing a particular attention to business processes. Deepening these improvements, we asked what processes were involved by these changes; the results are presented below.



Processes involved by business process improvement	% of SMEs that declared to have made process improvement
Production & Logistics	40,91%
Sales	15,15%
R&D	1,52%
Purchase	7,58%
Accounting	13,64%
Management Control	24,24%
Information Technology Systems	10,61%
Human Resources	9,09%
Others	0,00%

Table 5: process involved by business process improvement

As shown in the previous table, the main process improvements involved the following processes:

- Production & Logistics (40,91%);
- Management Control (24,24%);
- Sales (15,15%);
- Accounting (13,64%).

After investigating the process management, we focused on process indicators in order to evaluate if the efficiency and effectiveness of key processes have been monitored. As shown in the next table, the 65,1% of the sample declared to measure the efficiency and effectiveness of key processes.

Does the company periodically monitor the process efficiency and effectiveness?	
Answers	%
Yes	65,1%
No	34,9%
Total	100,00

Table 6: monitoring of process efficiency and effectiveness

We also analysed if the sample identified indicators to control the following core processes:

- Production;
- Sales;
- Research and Development (R&D);
- Purchase.

MONITORING OF CORE PROCESSES	%
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Production	10,03%
Sales	14,56%
R&D	4,21%
Purchase	7,77 %

*Table 7: monitoring of core processes*

Despite the analysed companies declared to made process improvements, from the previous table it emerged that the majority of the monitoring activities are not particularly evident. Indeed, process indicators are mainly used to control sales process (14,56%) and production process (10,03%), while the R&D and purchase process indicators are not particularly widespread. From the collected answers it also emerged that companies generally use quantitative indicators such as the productivity or the profitability ratios, while qualitative indicators (i.e. customer satisfaction, the customer loyalty, etc.) are not particularly used.

## DISCUSSION AND CONCLUSIONS

The research highlights that the majority of SMEs adopted an organizational structure based on functional areas. As underlined in literature, this organizational form obstacles the BPM system implementation. Indeed, SMEs remain attached to functional method of thinking, losing the systematic view, based on interlinked processes that cross functions and link organizational activities (Chong, 2014). Although the sample declared to be organized by functional areas, it is possible to observe a starting propensity to processes approach, especially through business process improvement activities. This evidence demonstrates that SMEs are beginning to be aware on the relevance of processes management. Indeed an appreciable number of companies has started to make improvements to existing processes, especially regarding the Production and Logistic that represent the core business; the business process improvement represents one of the phases of process management (Benner and Tushman, 2003). Furthermore, they monitor efficiency and effectiveness of the core processes.

Despite these evidences, the percentage of SMEs that really adopt a structured BPM system is not particularly relevant. According to Ates et al. (2013), in the analysed SMEs, that are generally characterized by fast decision making, high integration of activities, employee work ethic, that should boost the horizontal relations within organization and could be helpful in implementing business process approach, BPM is not particularly widespread. Indeed a low percentage of companies has recognized the potential of BPM to support the company goals implementation and the performance improvement.

This study contributes to partially support the main literature on the topic. In particular this research confirms the poor orientation to process management by SMEs, even if they seems to be more aware thanks to the business process improvement activities.

This paper has some theoretical and practical implications because it contributes to extend the literature on BPM in SMEs, that is not particularly structured, as underlined by Ates et al. (2013). At the same time the paper can help SMEs owner-managers to understand the relevance to better manage processes.

The main limit of this work is strictly related to sample actually focused on Italian SMEs: indeed this sample could be enriched with a comparison with other European countries.

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## WHY THE COMPANY'S DEBTS DEGREE VARY, WHEN CONSIDERING THE COMPANY AS A SYSTEM?

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### ABSTRACT

The objective of this research is to examine the impact of a series of company's variables - considered to be particular representative in the literature - on the debts degree in small and medium-sized enterprises, which affect its debts degree. Contextualizing the survey in a systems theory (Ferrero, 1968 and 1987), it was decided to analyze a particular phenomenon (that is the use of debts for financing the company).

Our research permitted to identify a series of variables which affect the company's indebtedness. Although every individual variable is sufficient to observe the examined phenomenon, it's important to contextualize it in a systemic perspective. Indeed, the impact of above mentioned variables on the indebtedness has to be understood not as simple cause-effect relationship: if the company is a system consisting of interrelated and connected elements, the relations which unite them, creating a circuit of concatenation between variables, which can impact on the recourse to the debts.

**Keywords:** *small and medium companies; company's indebtedness; debts degree; system theory; company's growth*

### INTRODUCTION

The economic context of some countries is characterized by the presence of small and medium-sized companies, including Italy and other European countries. According to the European Commission (2016), small and medium-sized enterprises constitutes 99% of European companies. Consequently, there is a high interest in observing of their attitude and characteristics, under various observation profiles.

Numerous studies have focused on the study of the companies' financial structure. The majority of them have focused on large companies. Exists also a certain interest in examination of this subject also for small and medium-sized enterprises. In general, SMEs can rely on lesser alternative financing sources than large companies (Barca, 1988; Busetta and Priest, 2008; Cellini and Rossini, 1990). Therefore, it becomes interesting to understand what are the variables that influence the company's

level of indebtedness.

The objective of this research is to examine the impact of a series of company's variables - considered to be particular representative in the literature – on the debts degree in small and medium-sized enterprises, which affect its debts degree. Contextualizing the survey in the systems theory (Brusa, 2013; Culasso, 1999; Ferrero, 1968 and 1987; Giacosa, 2011), it was decided to analyze a particular phenomenon (that is the use of debts for financing the company).

We referred to Giacosa (2015) as a framework, which identified some company's variables which impact on its financial structure. Our sample consists of small and medium sized companies, operating in the Italian manufacturing sector. The choice of the manufacturing context is linked to the fact that this sector is the one with the highest population in the Italian economic context and, therefore, is representative one of the Italian economy.

The research is structured as follows. The second paragraph is focused on the analysis of the literature, with particular reference to the different variables which affect the companies' indebtedness. The research method is outlined in the third section. The description of the results is conducted in the fourth paragraph, which is followed by discussion of the results. Finally, the conclusions and implications, along with the limitations of the research, are set out.

## LITERATURE

The literature includes a variety of studies relating to the financial structure of small and medium-sized enterprises.

Taking into account the aim of current research, we have focused on a series of issues regarding the determinants that affect the debts degree of small and medium-sized companies:

a) the company's size (Chung, 1993; Confindustria, 2007; Fama and French, 2002; Frank and Goyal, 2003; Heshmati, 2001; Homaifar et al., 1994; Giacosa, 2015; Michaelas et al., 1999; Partner Equity Markets, 2009). In some opinions, financial structure – and debts degree – are not influenced by the company's size (Kim and Sorensen, 1986). For others, there emerges the relationship between the company's size and its financial structure, however not everyone is agreed about the result of relation mentioned before. Particularly, a positive correlation emerged between the company's size and its level of indebtedness, confirmed by the Static trade-off theory (Fama and French, 2002; Homaifar et al., 1994; Michaelas et al., 1999; Rajan and Zingales, 1994; Romano et al., 2000; Sogorb-Mira and López-Gracia, 2003; Sogorb-Mira, 2005). In addition, small companies show a greater recourse to short-term debt comparing to big companies, because of difficulties in obtaining long-term debts.

b) sector to which the company belongs. a part of researchers claim that the companies belonging to the same sector represent similar levels of indebtedness, while the companies operating in different

sectors are characterized by different financial structures (Scott and Martin, 1975; Haris and Raviv, 1991; Michaelas et al., 1999; Riding et al., 1994).

c) the company's age: obviously, it exists a lot of opinions on this matter. According to Chittenden et al. (1996), the company's age does not affect its financial structure, while Jani et al. (2005), Petersen and Rajan (1994) and Van Der Wijst (1989) conclude that the company's age, understood as the company's life cycle, has an impact on the financial structure;

d) the company's growth perspectives, as they affect the financial requirements of the company (Becchetti and Trovato, 2002; Carpenter and Petersen, 2002; Dallochio, 2011; Fagiolo and Luzzi, 2004; Fazzari et al., 1988; Frielinghaus et al., 2005; Herrera, and Minetti, 2007; Honjo and Harada, 2006; Gregory et al., 2005; La Rocca et al., 2011; Machauer and Weber, 2000; Oliveira and Fortunato, 2006). The lack of financial sources represents a limited factor in the expansion of the company's activity (Balloni, 1984). Observing the growth of investments (in point of view of their diversification) it emerged that the financial need arising from investments affects the necessity to secure various kinds of financial resources. It's found out, that companies with a higher investment growth rate and, in addition, a more marked diversification, are also the most indebted ones (Hall, 2000; Michaelas et al., 1999; Orsenigo, 1984; Venanzi, 2003). Myers and Majluf (1984) wrote that the positive relationship between growth and debt is also due to information asymmetries. Barclay and Smith (1999) concluded that companies characterized by significant growth opportunities, in order to enjoy a certain degree of financial flexibility recourse to short-term financing sources rather than to long-term ones.

e) Ability to repay financial debt, which constitutes expressive indicator of the company's financial risk. (Culasso, 2009 and 2012). It emerged that indebtedness is also influenced by the company's attitude in generating a constant financial cash-flow through operating activity (Giacosa, 2012a and 2012b; Giacosa and Mazzoleni, 2012). In particular, by increasing this risk, the level of indebtedness decreases (Bonato and Faini, 1990). A small and medium-sized company is greatly influenced by the ability of repaying the financial debt, because of difficulty in obtaining financial resources. With a special reference to repay debt through operating activity, contribution of self-financing is determinant because, among others, it support entrepreneurial initiative using own power (Brunetti, 1983; De Laurentis, 1996; Dessy and Gervasoni, 1989; Dessy, Gervasoni and Vender, 1989).

f) Revenues: it emerged that the companies characterized by lower sales have a higher level of debts (Confindustria, 2007; Partner Equity Markets, 2009). Particularly, medium-sized companies in terms of sales (comparing with the big ones) have higher financial debts' degree, as the revenues permit the company to obtain financial resources thanks to the collection of trade receivables. On the contrary, the big companies (in terms of sales) are characterized by a lower bank debt's incidence (Miglietta, 2004).

g) Profitability: authors concluded that relationship existing between the profitability and financial structure is negative, indicating that more efficient companies record lower level of indebtedness. This companies prefer to use internal financial resources (Bonato et al., 1991; Centrale dei Bilanci, 2003; Chittenden et al. 1996; Monteforte and La Rocca, 2003; Myers, 1984; Holmes and Kent, 1991; Venanzi, 2003), also in order to not lose the control over the company and to not have to experience the entrance of new shareholders in management. Bank debt represents the most used source of financing (and preferred than recourse to stock market) when the financing sources from operating activity are not sufficient (Caselli, 2002; Dessy, 1995; Galbiati, 1999; Monteforte and La Rocca, 2003; Orsenigo, 1983; Onado, 1986; Partner Equity Markets, 2009).

In conclusion, the literature presents a series of theoretical and empirical contributions, relating to financial policy conducted by small and medium-sized enterprises, which have examined the impact of certain determinants on indebtedness level. It is therefore interesting to examine their impact on a representative sample, also in order to observe how the economic and financial crisis characterizing the last decade has influenced the phenomenon taken into consideration.

## METHODOLOGY

### *The sample*

The sample has been identified with reference to Italian economic context and period of 2012-2014. In particular, the analysis takes into account only manufacturing companies, as manufacturing sector constitutes the biggest population in the Italian economic context and because of that it's a representative sample of Italian economy. The companies have been chosen on the basis of Aida Bureau Van Dijk database (which contains economic-financial information on over one million Italian companies), taking into consideration Ateco's economic activities adopted by ISTAT.

The sample includes the manufacturing companies that meets the following criteria:

- active limited companies;
- non-listed companies;
- available companies' financial statements related to 2012, 2013 and 2014 and not prepared in accordance with International Accounting Standards;
- companies with the average production value in the considered period between 5-50 million euro.

We focused on the small companies (with revenues between 5 and 10 million euro) and on medium-sized ones (revenues between 10 and 50 million euro), in accordance with European Union Recommendation n.361 from 2003 with reference to the classifying the companies in the terms of their revenues. Particularly, the big companies have been excluded from the sample in order to impart a homogeneity of the sample;



- companies whose financial statements contain all the details to calculate indicators implemented in the current analysis.

Moreover, we excluded all the companies for which have been observed outlier values (extreme values of the indicators that results are very far from the average).

The final sample constitutes of 6.198 Italian manufacturing companies.

#### *The method*

The main objective of our survey is to propose a model which illustrates the impact of the series of variables on debts of small and medium-sized companies. To this end, the following RQ has been drawn:

RQ: considering the Ferrero's theory for which the company has been intended a system (Ferrero, 1968 and 1987), which are the determinants that has the biggest impact on the company's debts?

The research methodology is characterized by the following steps.

#### **A) Identification of the dependent variable (that is debts degree)**

The research considers as dependent variable the company's debts degree, that has been evaluated by comparing debts to total assets (using Debts/TA). This indicator defines which part of the company's investment is financed by the debts (it means third parties funds). The dependent variable has been calculated as following:

$$\frac{Debts}{TA} = \frac{\sum_{n=2012}^{2014} CTP_n}{\sum_{n=2012}^{2014} TA_n}$$

where:

Debts<sub>n</sub> = Total debts in the year n

TA<sub>n</sub> = Total assets in the year n

n = year, which can mean 2012, 2013 and 2014

#### **B) Identification of the variables which influence the debts degree of small and medium-sized companies (independent variables)**

Also by observing the literature on the subject, it is possible to identify the following variables that influence the debts degree:

a) company's growth: the "growth" variable can be measured both quantitatively and qualitatively. In the current analysis, also referring to the framework in this context (Giacosa, 2015), we decided to measure the growth in quantitative terms, as, it was impossible to adapt qualitative measure of

growth in the presence of so big sample of companies operating on national level. The company's growth in quantitative terms has been observed according to the following aspects of observation:

- production value: we made a decision about using the production value instead of revenues, in order to conduct the research also on the companies working on order. The company's growth has been quantified using CAGR indicator (Compound Annual Growth Rate) on the production value, calculated on the horizon of 2012-2014. This indicator measures average annual growth of production value in the three-year considered period. The growth in terms of production value offers an indication of the company's growth under operating profile. The CAGR on production value is illustrated below:

$$CAGR_{PV} = \sqrt[3]{\frac{PV_{2014}}{PV_{2012}}} - 1$$

where:

$PV_{2014}$  = company's production value in 2014

$PV_{2012}$  = company's production value in 2012

- invested capital: the CAGR indicator (Compound Annual Growth Rate) on invested capital has been calculated over the three-year considered period, identifying average annual growth of invested capital in the time horizon. The growth in terms of invested capital indicates the company's growth under structural profile. The formula used is as follows:

$$CAGR_{TA} = \sqrt[3]{\frac{TA_{2014}}{TA_{2012}}} - 1$$

where:

$TA_{2014}$  = company's total assets in 2014

$TA_{2012}$  = company's total assets in 2012

- number of employees: the CAGR indicator (Compound Annual Growth Rate) on the number of employees has been calculated over the considered period. The growth in this context permits indication of the company's growth under organizational profile. The formula used is presented below:

$$CAGR_E = \sqrt[3]{\frac{E_{2014}}{E_{2012}}} - 1$$

where:

$E_{2014}$  = number of employees of the company in 2014

$E_{2012}$  = number of employees of the company in 2012

b) the attitude in the financial debt repayment through operating activity: it's the company's ability to repay financial debt using the financial sources generated from operating activity. This indicator also

represents a financial risk indicator of each company (BCE, 2014). The greater are the values assumed by the indicator, the greater is the risk that the company can be in a difficult financial situation:

$$\frac{NFP}{EBITDA} = \frac{\sum_{n=2012}^{2014} NFP_n}{\sum_{n=2012}^{2014} EBITDA_n}$$

where:

NFP = Net Financial Position (which considers net financial debts less financial activities)

EBITDA = Earning before Interest, Taxes, Depreciation and Amortization of the company

n = year, which can mean 2012, 2013 and 2014

c) the financial situation of the company, which is related to its financial structure: we have decided to consider also the financial situation, as its characteristics can affect the company's ability of being able to meet (timely and economically) its financial commitments. Under the various financial situation indicators, we have chosen to consider how the invested capital is covered by long-term sources of funding. The formula used is as follows:

$$CFA = \frac{\sum_{n=2012}^{2014} Long\ Term\ Liabilities_n + Equity_n}{\sum_{n=2012}^{2014} Fixed\ Assets_n}$$

where:

CFA = covering fixed assets

Long-term liabilities n = company's consolidated liabilities of the year n

Equity n = company's equity of the year n

Fixed assets n = company's investments characterised by transformability in cash greater than of the year n

n = year, which can mean 2012, 2013 and 2014

d) the degree of rotation of invested capital through the sales. This aspect permits to judge the company's ability to return the capital invested in liquid form through the turnover. It can be measured by comparing revenues with the invested capital. For our calculations, the following formula has been used:

$$\frac{Sales}{TA} = \frac{\sum_{n=2012}^{2014} Sales_n}{\sum_{n=2012}^{2014} TA_n}$$

where:

Sales<sub>n</sub> = company's sales realized over the year n

TA<sub>n</sub> = invested capital (total assets) of the year n

n = year, which can mean 2012, 2013 and 2014

e) company's age: as also the company's age can affect its financial structure, we decided to also consider this aspect of observation. It was quantified considering the natural logarithm of the years from foundation of the company, in order to verify the level of its age. To this end, we used the

following formula:

Age = ln (number of years since the company's foundation)

where:

Age = age of the company

ln = natural logarithm

f) company's size: our sample consists of small and medium-sized companies. That is why the dimensional parameter has been taken into consideration, in order to see how it affects on the financial structure. In particular, the size has been measured in terms of natural logarithm of the sales.

Size= log (average sales in three-year period)

where:

Size = company's size

g) impact of intangible assets on invested capital: the weight of intangible assets has been compared with total invested capital, and in this way it is possible to assess the level of their representativeness in the investment choices and, subsequently, to evaluate their influence on the financial structure of the company. The formula used is presented below:

$$\frac{\text{Intangible Assets}}{TA} = \frac{\sum_{n=2012}^{2014} \text{Intangible Assets}_n}{\sum_{n=2012}^{2014} TA_n}$$

Intangible Assets<sub>n</sub> = company's intangible assets over the year n

TA<sub>n</sub> = invested capital (total assets) of the year n

n = year, which can mean 2012, 2013 and 2014

Current analysis has been conducted by taking into consideration average values recorded by each company in the three-year period considered. We have decided for this choice, as some of variables (by the way the growth) represents average values recorded in our time horizon.

### C) Development of the analysis' model

Initially the relationship between the dependent variable (that is debts degree), on the one hand, and the independent variables, on the other hand, there has been evaluated by Pearson's correlation. In this regard, Pearson's correlation (p) can be:

- direct if  $p > 0$
- nothing if  $p = 0$
- indirect if  $p < 0$
- weak if  $0 < p < 0,3$  o  $-0,3 < p < 0$
- moderate if  $0,3 < p < 0,7$  o  $-0,7 < p < 0,3$
- strong if  $p > 0,7$  o  $p < -0,7$

The relationship between the debts degree, on the one hand, and business growth, on the other hand, was further evaluated through a model based on multiple linear regression. We have chosen the multiple OLS (Ordinary Least Squares or least squares).

The OLS model has been estimated using the econometric software Gretl, looking at the case studies of companies in the sample and eliminating outliers to avoid compromising the significance of the results. The econometric model is specified below:

$$y = \alpha + \beta_1 x_1 + \beta_2 x_2 + \dots + \beta_n x_n + \varepsilon$$

where:

$y$  = it represents the variables in the observation

$\alpha$  = constant of the model

$\beta_i$  = it represents the regression coefficient for the variable  $x_i$

$x_i$  = it represents the  $n^{\text{th}}$  independent variable

$\varepsilon$  = it represents the end of an error, called alternatively "residue error"

$n$  = it represents the number of variables contained in the model

The goodness of the model has been assessed by resorting to R-correct framework, which indicates what part of the phenomenon is explained by the variables included in the model.

Subsequently, we conducted an analysis of emerging residues from multiple linear regression. Through this step, it has been assessed the normality of residuals (which constitutes a necessary condition in order to generalize the conclusions of the model on a wider reality).

In particular, the evaluation of the normality of the residues has been performed through the residue normality test and the graph Q-Q plot: the latter compares the quintiles emerged from a normal with those of the distribution of the residuals.

## FINDINGS

Findings of our research are presented below, regarding the following articulation:

- correlation matrix
- multivariate analysis

### *Correlation matrix*

Table 1 contains information about variation and covariation matrix.

*Table 1 – Correlation matrix*

Debts/ TA	NFP/ EBITDA	CFA	Sales/ TA	CAGR PV	CAGR TA	CAGR Employee es	Age	Size	Intangib le Assets/ TA	
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1	0.5693	-0.2876	0.2659	0.0093	-0.0759	0.0177	-0.1608	-0.0052	0.2165	Debts/TA
	1	-0.3594	-0.1215	-0.0362	-0.1458	-0.0237	-0.0211	0.0138	0.1126	NFP/EBITDA
		1	0.2219	-0.0108	0.1183	0.0007	-0.0402	-0.0268	-0.0847	CFA
			1	0.0558	0.0860	0.0674	-0.1654	0.0855	-0.0004	Sales/TA
				1	0.4880	0.1528	-0.0502	0.0729	-0.0128	CAGR PV
					1	0.1611	-0.0568	0.0571	-0.0429	CAGR TA
						1	-0.0548	0.0528	-0.0092	CAGR Employees
							1	0.0595	-0.137	Age
								1	-0.0178	Size
									1	Intangible Assets/TA

NFP/EBITDA: companies' net financial position over EBITDA

CFA covering fixed assets): degree of covering fixed assets with medium/long term sources of funding

Age: age of the company

Debts/TA: Impact of debts on total assets

CAGR PV: company's growth in terms of production value

CAGR TA: company's growth in terms of total assets

Sales/TA: sales over total assets of the company

Intangible Assets/TA: comparison between intangible assets over total assets

CAGR Employees: growth in terms of employees

Size: company's size

It emerged that it exists a moderate correlation between the dependent variables (debts degree) and the independent variable (NFP/EBITDA). The correlation results weak for the following variables: CFA, Sales/TA, age, size, growth in terms of production value, growth in terms of total assets, growth in terms of employees. The relation between the dependent variables (debts degree) and individual dependent variables (such as NFP/EBITDA, Sales/TA, growth in terms of production value, growth in terms of employees) is positive, while the relation between CFA, growth in terms of total assets, age and size is negative.

### *Multivariate analysis*

In order to verify the relation between dependent variables and independent ones, the dependent variable was regressed (using the OLS) on independent variables. Taking into account also, the correlation matrix, it is possible to affirm that the correlation between the growth in terms of production value and growth in terms of total assets is moderate.

The results obtained are exposed in the table presented below (Table 2).

Table 2 – Relation between dependent variable and independent ones

	Coefficient	Std. Error	t-ratio	p-value	
Constant	0.739901	0.0494546	14.9612	<0.00001	***
Age	-0.0276556	0.00352647	-7.8423	<0.00001	***
CAGR PV	0.0153875	0.0268653	0.5728	0.56683	
CAGR TA	-0.0470832	0.0293952	-1.6017	0.10927	
Sales/TA	0.151952	0.00456699	33.2718	<0.00001	***
Size	-0.0313781	0.00686379	-4.5715	<0.00001	***
NFP/EBITDA	0.0350559	0.000692372	50.6315	<0.00001	***
CFA	-0.0258915	0.00168227	-15.3908	<0.00001	***
Intangible Assets/TA	0.903986	0.066679	13.5573	<0.00001	***
CAGR Employees	0.00680425	0.0136738	0.4976	0.61878	
Interaction	0.536698	0.275006	1.9516	0.05103	*

Table 2 shows that all of the variables (except the ones that measure the company's growth) are significant at a 5% level taking into consideration that p-value is lower than 5% (which constitutes the critical threshold on the basis of which we can decide if to accept or to refuse the null hypothesis). Referring to the table 2, it emerged also that:

- by increasing age of the company, the debts degree decreases. Increasing the years of the company's activity (other things being equal), the company can count on higher accumulated profits (if the economic conditions permits an accumulation of profits over time) and resorting to the debts becomes less necessary;
- the higher the index of rotation, the higher the use of external sources of financing. It needs significant financial resources for having an effective business structure capable to increase the rotation of invested capital;
- small companies recourse more frequently to external sources of financing, because the companies can count on higher profits. It is observed that the findings are in line with the trade off theory.
- company's ability to repay debts is positively correlated with the debts degree. When the indicator's increase, we observed an increase of debts degree;
- the coverage of fixed assets thanks to medium-long term funds is negatively related to debts degree indicating that the companies whose long-term investments are financed with a medium-long term funds, are less linked to debts;
- it exists a positive relationship between growth opportunities and Debts/TA, indicating that companies with higher growth opportunities resort more often to debt. In addition, the companies that invest especially in intangible assets, very often tend to use debts.

However, the t-ratio for the growth in terms of production value (-0.24054), for the growth of total assets (0.25786) and for the growth in terms of number of employees (0.57562) are greater than 5% or even 10%: it means that the variables are considered as not significant. The interaction term (CAGR PV and CAGR TA) is significant at 10% significance level, considering that the corresponding p-value

indicates acceptance of the hypothesis of the presence of a growth effect for values greater than 0.05103.

In other terms, there is no relationship between the individual variables measuring the company's growth and Debts/TA. This relationship becomes positive, if we consider the interaction of two variables (meaning between growth in terms of production value and growth in terms of total assets), on the one hand, and debts degree on the other. It means that small and medium-sized companies that grow both in terms of investment, and in terms of production value, need more debts.

The following table evaluates the efficiency of the multiply linear regression (Table 3)

*Table 3 – Assessment of the efficiency of the multiply linear regression*

Mean of dependent variable	0.607549	Std deviation of dependent variables	0.182755
Sum of Squared Residuals	106.6890	Std Error of regression	0.130528
R- Squared	0.490696	Adjusted quadrant-R	0.489882
F(10, 6262)	541.8058	P-value(F)	0.000000

It emerged that the average of dependent variable (that is the debts degree) is equal to 0.607549: it means that debts degree is on average equal to 60.75%. Standard deviation of dependent variables is equal to 0.182755 that represents variability of the individual observations regarding the average of dependent variables of the sample considered.

We consider also the sum of square residues (106.6890) and standard error of the regression (0.130528), it was possible to calculate the correct R-quadrant (called also coefficient of determination) that is equal to 0.489607. Therefore, a part of phenomenon (meaning the debts degree) which can be justified by the multiple linear regression model is equal to 48.99%.

It emerged that the results are consistent with studies conducted on small and medium-sized companies. For example, Michelas et al. (1999) affirmed that for small and medium-sized British companies there is a positive relationship between operational risk level and level of the company's debt.

In addition, the research confirmed some previous studies, for which the debts degree of small and medium-sized companies is influenced by several factors, such as the company's size (Chung, 1993; Fama and French, 2002; Frank and Goyal, 2003; Heshmati, 2001; Homaifar et al., 1994; Giacosa, 2015; Michaelas et al., 1999), the company's age (Chittenden et al., 1996; Van Der Wijst, 1989), the company's growth perspectives (Frielinghaus et al., 2005; Herrera, and Minetti, 2007; Honjo and Harada, 2006; Gregory et al., 2005), and the ability to repay financial debt (Culasso, 2009 and 2012).

## CONCLUSIONS, IMPLICATIONS AND LIMITATIONS

Our research permitted to identify a series of variables which affect the company's indebtedness.



Although every individual variable is sufficient to observe the examined phenomenon, it's important to contextualize it in a systemic perspective. More specifically, and referring to the RQ, we can outline a series of final considerations:

- increasing the company's age, the debts degree decreases. Indeed, assuming other conditions being equal, when the company's age increases, the profits accumulated over time allow the company to count on internal financial resources, that permit to reduce its recourse to debts;
- in terms of growth, there is no relationship between the individual variables, examined individually, and the debts degree (that is between the growth in terms of production value and the debts degree, between the growth in terms of invested capital and the debts degree, and between the growth in terms of employees and the debts degree). Nevertheless, small and medium-sized companies that grow both in terms of investment, and in terms of production value, need more debts;
- an increase of rotation degree of invested capital requires a debts degree increase. This may be due to the necessity of making the business structure more effective, capable to accelerate the rotation of invested capital as a result of the sales;
- referring to the company's size, small companies are characterized by higher recourse to the debts;
- the company's ability to reimburse the debts is positively correlated to the debts degree. Indeed, when the company is able to repay the debts using own sources, it increases its ability of meeting timely the financial liabilities.

The phenomenon considered (that is the debts degree) could not be explained by outlining simple cause-effect relations between two individual variables: on the one hand, some company's variables (considered independently) and on the other the debts degree (considered dependent).

These considerations are in line with the framework (Giacosa, 2015), according to which the phenomenon observed (that is the debts degree) should not be considered as a result of a unique cause, but rather as the combination of numerous aspects of observation concerning the company.

Current research differs from previous contributions, both from theoretical and empirical profile:

- in theoretical key: our effort was to create a general reference model which, contextualized to the systems theory, would explain the trend of a particular corporate phenomenon (that is the debts degree) through a series of company's variables interdependent between them. The implications of the research concerning both the management and the ownership: indeed, the model proposed allows to evaluate the effect of various decisions regarding certain corporate variables about the company's indebtedness level.
- in empirical key: accuracy of that model in the context of systemic theory has been examined in two different ways: the first has privileged the size of the sample, through the application of the model to a large number of companies operating in many different sectors; the second has favored the sectoral

relevance, in order to find the specific characteristics of each sector.

View to identifying the limitations of the research, it can be stated as follows:

- with reference to the sample: it is composed of a single economic sector (meaning the manufacturing one), which is the most representative of the Italian economy. Consequently, the model developed does not allow to highlight the impact of the variable “economic sector” on the debts degree, giving their specificities that characterize each sector;
- the method used: the model used does not include qualitative variables, which could help to explain in better way the debts degree. We consider the level of satisfaction of customers and employees, as well as the uniqueness of the product range and a degree of its personalization;
- the variable “debts degree”: in the model, a distinction in relation to debts deadline (that is in the medium/long-term debt, and short-term debt) has not been conducted. This differentiation may have an impact on the attitude of companies, especially regarding the choice in terms of financing.

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## EMPOWERING CUSTOMER EDUCATION: A RESEARCH AGENDA FOR MARKETING STUDIES

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### ABSTRACT

The aim of this paper is to build upon previous research about customer education in the marketing studies in order to identify research gaps in the existing marketing literature and to suggest a research agenda about this topic. The analytical approach of this paper draws heavily on theoretical evidence published in the marketing literature. From a methodological point of view, after an extensive review of marketing studies on this topic, a content analysis was conducted in relation to the study's purpose in order to reveal potential gaps in literature and suggest a research agenda about customer education in marketing studies. Based on the findings, the following future research directions are proposed: 1) integration of the concepts of customer education, expertise and knowledge; 2) analyses of the advantages of customer education for internationalization as well as the identification of risks connected with educating customers; 3) measurement of customer education; 4) investigation of companies that actually offer customer education programs, and 5) examination of different service contexts. Marketing scholars can use this paper as a reference for identifying specific research areas to be investigated and further enhance existing knowledge.

**Keywords:** *consumer education programs; service marketing; content analysis; gap spotting approach; journal review; literature review; service quality; customer satisfaction; customer expertise; customer knowledge*

### INTRODUCTION

Since the end of the Nineteen-thirties (Herrmann, 1982), the topic of customer education has attracted the attention of many scholars in a number of subject areas such as psychology (e.g., Friedman and Rees, 1988), psychiatry (e.g., Bielavitz et al., 2010), economics (e.g. Armstrong and Uhl, 1971; LaForge, 1989; Coppack and Brennan, 2005; Bienenstock, 2014), finance (e.g., Jing Jian Xiao, 2004; Lee and Jaramillo, 2013), management (e.g., Miller, 1980; Noel et al., 1990; Jung, 2013; Retana et al., 2016) and marketing (e.g. McNeal, 1978; Fast et al., 1989; Smith, 1996; Dillard and Johnson, 2015). Although it is a multidisciplinary concept, customer education is commonly defined among scholars as a process

including educational activities undertaken to improve customers' expertise in relation to the goods and services they buy.

With regard to marketing studies, this topic has been examined in the extant literature from different points of view. In the 1970s and 1980s, marketing scholars mainly studied, on the one hand, customer education programs in terms of implementation, especially communication processes, and evaluation (e.g., Bloom, 1976; Wallendorf and Zaltman, 1977; Langrehr and Mason, 1978; Way, 1984; Fast et al., 1989). On the other hand, the role and effects of customer education on customer behavior (Scherf, 1974; Stampfl et al., 1978). In the 1990s, scholars paid little attention to customer education and their contributions focused especially on how educated customers can be influenced by advertising (Smith, 1996). Since 2000, while customer education has continued to be addressed from a goods marketing perspective (Aubert, 2008; Aubert and Gotteland, 2010), several scholars have started to address this topic from a service marketing perspective (Oumlil et al., 2000; Burton, 2002; Eisingerich and Bell, 2006; Bell and Eisingerich, 2007; Yin and Yang, 2009; Aubert and Gotteland, 2010; Antonios, 2011; Bonfanti and Brunetti, 2015; Nam and You, 2015; Suh et al., 2015).

Despite the limited empirical evidence available in the academic literature, many scholars argue the importance of customer education in terms of "educational initiatives undertaken by a company to better educate, inform, and develop the knowledge and skills of the customers in order to unlock the full value of the products at end use" (Antonios, 2011, p. 3). This aspect pertains both young and old customers (e.g., Oumlil et al., 2000; Shim, 2005). Competitive pressure on service organisations has reinforced the need for improved theoretical and practical understanding of this topic.

Consistent with this need, the aim of this paper is to build upon previous research about customer education in marketing studies in order to identify research gaps in the existing marketing literature and to suggest a research agenda about this topic. To achieve these objectives the following research questions are proposed: 1) What is customer education from a marketing perspective? 2) Which advantages does it provide to companies and customers? 3) What methodological approaches have been used in the extant literature? 4) What research areas have been examined in customer education studies?

The remainder of the paper is structured as follows. The next section proposes the methodological approach used in this study, followed by an analysis of the main definitions of customer education, its advantages, the methodological approaches used so far in literature and the main customer education research areas. Based on these premises, the research gaps in the literature are identified and a research

agenda about customer education is proposed. Finally, we conclude with some limitations of this study.

## METHOD

This study follows a qualitative approach based on a literature review about customer education. In particular, academic journal articles were downloaded from three online databases, including EBSCO Business Source Premier, Scopus and ISI Web of Science (WOS), and one research engine such as Google Scholar. With the exception of one article that is written in French, all selected articles are written in English. Research notes, readers' comments, editorials, trade publications, magazines and industry profiles were excluded from this analysis because they were not considered sufficiently academically robust nor relevant for this study.

Since this paper specifically focuses on customer education, only those articles which included "customer education" or "consumer education" in their title were considered for the analysis. In total, 28 articles were examined. They appeared on the following 16 referred academic journals (in alphabetical order): Academy of Marketing Studies Journal, Advances in Consumer Research, Business Horizons, Business Leadership Review, Consumer Policy and Education Review, Décisions Marketing, European Journal of Marketing, International Journal of Consumer Studies, Journal of Advertising Research, Journal of Consumer Affairs, Journal of Consumer Research, Journal of Consumer Studies, Journal of Financial Services Marketing, Journal of Macromarketing, Journal of Services Marketing, and Services Marketing Quarterly. These journals were published from 1974 to 2016 (until April 30, 2016).

A content analysis was then undertaken (Stemler, 2001) via Qualitative Solutions and Research (QSR) NVivo 10 software. Each paper was inductively codified (Saldana, 2009). The nodes were created in relation to the first four research questions mentioned above, i.e. definition of customer education, advantages to companies and customers in a marketing perspective, methodological approaches, and research areas.

In order to answer the fifth research question, i.e. to reveal the more significant gaps in existing literature and suggest some research directions, a specific basic gap-spotting mode was adopted, the neglect spotting, that allows the identification of "a topic or an area where no (good) research has been carried out" (Sandberg and Alvesson, 2011, p. 30). In this regard, all three versions of the neglect spotting were used, i.e. overlooked aspects in existing literature, under-researched areas, and areas that lack empirical support. Based on the identified gaps, a specific research agenda about customer education in marketing studies was developed in order to answer the sixth research question of this study.

## FINDINGS AND DISCUSSION

### *What is customer education from a marketing perspective?*

In the marketing literature, customer education is defined as a process including a number of educational activities aimed at improving the consumers' ability (i.e., attitudes, knowledge or skills) to better purchase, use and appreciate goods and services as well as protect their rights and interests. In this last regard, "if consumers know how a product works and are aware of its potential hazards, they will act in a manner to protect themselves from the hazards" (Thompson, 1974, p. 101). Table 1 summarizes the main definitions of customer education in the marketing studies.

Definition of customer education	Author(s), year
"any attempt to improve the consumer's ability to act as purchaser or consumer of those products and services he deems most likely to enhance their well being" (p. 199)	Seitz, 1972
"it should be a competitive effort, unique to the firm and its products and services, and not general in nature" (p. 53)	McNeal, 1978
"the term customer education refers to any purposeful, sustained and organized learning activity that is designed to impart attitudes, knowledge or skills to customers or potential customers by a business or industry"	Meer, 1984 mentioned in Antonios, 2011
"customer education refers to the extent to which service employees provide customers with the skills and abilities needed to utilize information. More specifically, we define customer education as service advisers' willingness to explain financial concepts and the pros and cons of recommended investment opportunities to their clients" (p. 90)	Eisingerich and Bell, 2006
"customer education is the extent to which advisors provide customers with the skills and abilities to utilise information" (p. 473)	Bell and Eisingerich, 2007
"the companies' investments in improving customer expertise in relation to the goods and services they market (Honebein and Cammarano 2005). It relies on instructional activities, such as face-to-face seminars, implemented to leverage product usage related skills of a company's potential or actual customers" (p. 920).	Aubert, 2008
"ensemble des activités pédagogiques mises en œuvre par une entreprise pour développer les connaissances et compétences des consommateurs dans l'usage des produits" (pp. 8-9)	Aubert and Gotteland, 2010
"educational initiatives undertaken by a company to better educate, inform, and develop the knowledge and skills of the customers in order to unlock the full value of the products at end use" (p. 3)	Antonios, 2011
"is a process feeding by customer personal experiences and by companies' education initiatives "aimed at informing and training customers in order to increase their knowledge levels (basic, general, and deep)" (p. 219)	Bonfanti and Brunetti, 2015

Table 1. *Some definitions of customer education in the marketing studies*

Customer/consumer education is a process aimed at feeding customers' or consumers' information about a certain good or service in order to increase their knowledge and skills levels. In other terms, customer education studies highlight the importance of informing customers about product attributes and product usage, manufacturers/service providers and the production process. In this sense, consumer education and consumer information are different concepts yet belonging to the same continuum (Burton, 2002): consumer information is a lower-level activity useful for achieving a basic knowledge, whereas consumer education is at a higher and advanced level of knowledge.



Jointly integrating different types of information during the customer education process allows to both promote increased knowledge levels (Aubert and Gotteland, 2010) from basic to in-depth knowledge – by moving from novice to informed to expert customers (Clarkson et al., 2013) – and develop skills for using information from a service quality perspective (Oumlil et al., 2000; Burton, 2002). Given that customer evaluation skills are crucial to better use information, they are considered a mediator of the relationship between any knowledge level gained by customers during the customer education process and customers perceived value (Bonfanti and Brunetti, 2015).

*Which advantages does customer education provide to companies and customers?*

Investing in customer education generates benefits for both firms and customers. On the one hand, companies can obtain and retain satisfied and loyal customers, create favorable attitudes towards a product or a company, reduce confrontation with consumer advocates, improve effectiveness of marketing strategies, differentiate from competitors, add value to service offerings and assist in customer retention (McNeal, 1978; Oumlil et al., 2000; Burton, 2002). On the other hand, customers can obtain an increased purchasing power resulting from more effective buying, greater personal satisfaction and appreciation because of improved decision making and skills of information evaluation, lower perceived risk, and greater protection of their rights and interests (Oumlil et al., 2000; Aubert, 2008; Bonfanti and Brunetti, 2015).

*Which methodological approaches have been used?*

From a methodological point of view, most of the articles selected adopts a quantitative research approach (about 57 per cent). Survey is the most common method for data collection and factor analysis is the most frequently used method for data analysis, while exploratory laboratory studies are the least frequently used.

In terms of qualitative research (about 43 per cent), conceptual studies are the most frequently used, while very little attention is paid to case studies, in-depth interviews and content analysis method.

Less than 11 per cent of the articles tried to measure customer education.

*Which research areas have been examined in customer education studies?*

In marketing studies, customer education has been examined especially in terms of consumer education programs and service marketing.

First, consumer education programs represent the educational tool most frequently examined in the marketing literature, especially in the 1970s and 1980s (Bloom, 1976; Wallendorf and Zaltman, 1977;

Bloom et al., 1977; Langrehr and Mason, 1978; Bloom and Ford, 1979; Way, 1984; Fast et al., 1989; Adkins and Ozanne, 2005; Jung and Jin, 2016). In this period, various studies analysed a television series entitled “Consumer Survival Kit” to explore differences in knowledge levels, behavior, and satisfaction between viewers and non-viewers. In brief, watching this TV program helped viewers to be more “active” consumers.

Companies willing to invest in consumer education can provide customers with information useful to product purchase and usage (e.g., Zhao et al., 2011) and create the conditions for developing the skills to capitalise on such expert information through a number of activities. Fast et al. (1989) identified the six following types of consumer education: 1) formal consumer education courses offered in schools, which are general in nature and focus on resource management; 2) consumer education workshops, seminars, etc. that emphasize basic buying strategies; 3) programs intended to disseminate printed consumer education materials; 4) materials that highlight buying strategies specific to the product category; 5) the frequency of publication of consumer information and/or action columns in the popular press; and 6) the frequency of consumer periodicals.

Other actions that are objective in nature include training and external communication activities such as printed materials (e.g. instruction booklets, flyers and tourist guides), websites, e-mail, e-tutorial, consulting services and personal advice. Essentially, all educational initiatives that allow customers to meet the right to full product information, learn how to make rational and efficient future choices, and protect their rights and interests are considered as customer education programs. Another important aspect is that educational initiatives should also be aimed at empowering customers with limited literacy abilities in order to allow them to enter the marketplace (Adkins and Ozanne, 2005).

Any company has to carefully choose the most appropriate – and convenient – education programs among auto-education, mass education, experiential or individual education by segmenting customers on the basis of their initial level of expertise (Aubert and Gotteland, 2010). This is a crucial marketing strategy, given that “not all customers require similar levels of educational support in the same service context” (Burton, 2002). Accordingly, managers should develop education initiatives mainly aimed at customers who want to satisfy their own curiosity and increase their knowledge levels (Bonfanti and Brunetti, 2015). For example, Jung and Jin (2016) studied slow fashion consumers in relation to their attitude for sustainability. In terms of consumer education, this research highlights how education programs can help customers recognize and admit the negative impact of their overconsumption in the long term, and motivate them to change their habits.

Second, marketing scholars have only recently taken into account customer education in a service marketing perspective. Previous research has provided evidence that this topic plays an important role in building service quality (Oumlil et al., 2000; Burton, 2002), customer satisfaction and loyalty (Oumlil et al., 2000; Aubert and Gotteland, 2010; Antonios, 2011; Suh et al., 2015), and customer perceived quality (Bonfanti and Brunetti, 2015). It is interesting to note that the relationship between the concepts of customer education and service quality has only recently been addressed in the extant literature. When consumers are educated, they are able to identify poor service quality and may become less loyal (Burton, 2002). In addition, if customer expertise is high, the positive effect of technical service quality on customer loyalty is indeed stronger, while the positive relationship between functional service quality and customer loyalty decreases (Bell and Eisingerich, 2007). These aspects can represent crucial risk elements for companies.

In services marketing literature, customer education has been analysed mainly in relation to complex professional services such as financial services (Eisingerich and Bell, 2006; Bell and Eisingerich, 2007). These studies highlight how customer education can add value to the service offering and increase loyalty. Especially, customer loyalty was found to be positively and significantly related to technical and functional service quality, as well as customer education. Contrary to expectations, however, customer expertise was not negatively related to customer loyalty. Further, customer expertise was found to be positively associated with customer education.

Other service settings that have been examined are restaurant services and performing arts. Yin and Yang (2009) examined the impact of customer education in restaurant services by suggesting that customer education affects customer participation, functional service quality and trust. With reference to performing arts, Nam and You (2015) explored the impacts of demographic characteristics and education experience in arts on consumers' behavior including frequency and diversity of seeing performing arts, acquisition of information, attributes, and expected benefits. The frequency of seeing performing arts was increased, if consumers were accompanied by friends or family members, had experience in arts education, and looked for information on websites before attending the event. While the frequency of seeing performing arts was increased when the consumers perceived popularity as an important attribute, the frequency of seeing performing arts was decreased when they perceived facilities as an important attribute.

*What can be the research gaps in the existing literature about customer education?*

Based on the literature analysis described in the previous paragraphs, the following five research gaps were identified: 1) although there are some articles that specify the difference between customer

education and customer information, there is a need to clarify other related concepts, such as customer expertise and knowledge; 2) the marketing literature highlights the benefits for companies that invest in customer education and for educated customers, but it on the one hand can extend benefits and, on the other hand, pays little attention to the risks that might emerge during the customer education process; 3) only a few articles have attempted to measure customer education; 4) there is a lack of empirical studies on actual customer education programs; 5) the customer education topic needs to be further examined in different service contexts because of little empirical evidence in the services marketing studies.

*Which research agenda on customer education can be developed in the marketing studies?*

In this section, a research agenda on customer education in marketing studies is proposed in relation to the five research gaps identified above. For the sake of clarity, the order in which the gaps were presented is followed.

1. In order to better understand the customer education topic, future research can jointly integrate the studies about customer education with the literature about consumer expertise (e.g., Alba and Hutchinson, 1987) and consumption knowledge (e.g., Clarkson et al., 2013). Some studies argue that “novel consumption experiences help build a consumer’s experiential consumption knowledge” that “has the potential to enhance their appreciation of future consumption experiences” (Clarkson et al., 2013, p. 1313). In other words, a consumer can better appreciate the benefits of a consumption experience when experience with that product category increases. Accordingly, expertise enhances the appreciation of future consumption experiences. Given that information improves customer evaluation skills in relation to product quality (Sproles et al., 1980), future studies should explore what evaluation skills allow customers to identify and appreciate product quality. Given that customer evaluation skills are based on not only companies’ education initiatives but also customers’ personal experiences (Bonfanti and Brunetti, 2015), future studies could examine in more detail the factors that contribute to develop customers’ self-education. In addition, customers can develop self-education skills by independently studying, reading and making use of e-learning tools (Kim, 2008) because of personal interesting or hobbies, or also by exchanging information through social networks. Since self-education has been hitherto understudied, examining how customers develop their self-education is a crucial and essential research direction.

2. Among the benefits that have been highlighted in literature, the importance of investing in customer education for firms’ internationalization purposes has not been outlined yet. In today’s global environment, customers can find during their shopping expeditions or at restaurant, goods and

services they are not familiar with and do not know how to use them because they belong to other cultures. For example, a Russian customer may not know how to cook the pasta bought at a local supermarket. In this regard, future research can investigate how companies are disseminating information in foreign markets and explore the advantages in terms of international marketing strategy.

However, companies that invest in customer education might also face some risks such as not satisfying customers that have acquired too much information and, subsequently, have become too expert. Customers' critical ability might increase to a level that they no longer appreciate the delivered service quality or product category offering. In this regard, it could be useful to investigate the relationship between customer education and customer satisfaction in relation to different knowledge levels acquired by customers.

3. Although customer education has been examined in quantitative studies, only 11 per cent of empirical research has attempted to measure this concept. Bloom and Ford (1979, p. 271) outlined that "the problem is not so much one of determining what to measure as it is how to obtain valid, reliable measurements". They argued that these measures could consider participants' knowledge about certain consumer education topics, attitudes toward certain institutions and behaviors, consumption behaviors (e.g. information-seeking), and general satisfaction with marketplace experiences. Later, Burton (2002) proposed the following variables: a) the existing abilities of consumers, b) appropriate methods of segmentation, c) the complexity of the service, d) the rate of service innovation, e) appropriate and available sources of information and education, and f) the proportion of new and existing customers. On the basis of this research and of the studies about communication effectiveness (Sharma and Patterson, 1999), Eisingerich and Bell (2006) measured the customer education construct in financial services. In their next research, by taking into account Alba and Hutchinson's (1987) study, Bell and Eisingerich (2007) also considered customer expertise as the extent of a customer's product knowledge and ability to assess product performance. In this way, they used customer expertise as a specific and separated construct from customer education. Aubert (2008) studied a sample of 321 consumers who owned a digital camera for about eight months in order to better understand the effects of customer education on skills, usage behavior and customer satisfaction. In his study, he used Churchill's paradigm (Churchill, 1979) to develop a scale to measure customer education efforts as perceived by customers. The measures used include skills improvement, usage intensity-frequency, variety, product expertise and product satisfaction. This scale has been validated through structural equation modelling. Consistent among all these studies was that future research should include customer expertise as part of customer education. New studies can empirically profile customers/users according to their

customer education, examine possible difference among clusters and suggest to marketing managers how to effectively implement customer education programs on the basis of characteristics of these clusters. Also, it could be interesting to examine such profiles in relation to different service settings.

4. Marketing articles published in the last decade have neglected conceptual and practical analysis about customer education programs. Future research can investigate how companies invest in actual customer education programs. It would be interesting to explore the ways in which they educate customers by focusing on some crucial aspects such as contents developed, communication processes, and consumer behavior during the education process. Further research could also address the educational programs adopted by companies operating in different industries. Some differences might emerge between companies belonging to the same industry or also between goods manufacturers vs. service providers. These studies can contribute to develop more effective consumer education programs and highlight areas to empower these programs.

5. Although the topic of customer education has been examined in specific service contexts such as financial, restaurant and performing arts, research in these fields is still scant. With specific reference to performing arts, for example, future studies can examine the impact of customer education on customer satisfaction and loyalty, as well as investigate through experiments the satisfaction levels of expert, informed, novice and not educated customers participating to the same performing show. By means of a survey, it could be useful to study customer education as a driver to revive the fortunes of industries that currently are in crisis such as lyrical opera. In addition, there are no studies about customer education in other service settings such as health, (sporting) events and museums. Another under-researched area includes customers with health problems such as intolerance and allergies to certain foods. Most of them need and are looking for healthy foods and gluten-free foods. Both consumer goods manufacturers and retailers must deal with consumers' doubts about nutritional labelling deriving, for example, from ambiguous terms used in advertising. In this sense, they play a crucial role in developing customer education. Future research could examine how these players behave and what marketing strategy they adopt.

## CONCLUSIONS AND LIMITATIONS

Based on the analysis of available literature in marketing studies, this paper provides future research directions on customer education. Especially, it proposes: a) to jointly integrate the concepts of customer education, expertise and knowledge, b) to analyse the advantages of customer education for internationalization as well as the risks connected with educating customers, c) to measure customer education, d) to investigate companies that actually offer customer education programs, and e) to

examine different service contexts. . Marketing scholars can use this paper as a reference for identifying specific research areas to be investigated and further enhance existing knowledge.

This paper has several limitations. First, only those articles which included “consumer education” or “customer education” in their title were examined. It is acknowledged that other studies without these keywords in the article’s title may have been omitted and could be included in future research. Content analysis conducted for this study was based purely on identifying research gaps and, accordingly, propose some research directions. A more comprehensive study could be conducted by extending the analysis to all literature about customer education in order to provide a greater understanding of this topic.

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# CORPORATE SOCIAL RESPONSIBILITY IN THE NORTH AND SOUTH OF EUROPE: A COMPARISON BETWEEN FINLAND AND ITALY

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## ABSTRACT

The purpose of this paper is to observe the dynamics of Corporate Social Responsibility (CSR) through some cases regarding Finnish and Italian companies. The choice of Finland mirrors the strong collective awareness of social and environmental responsibility it supports. The authors present a comparison with the Italian context, focusing on the main concerns that companies integrate in their business operations and the main challenges related to the diffusion of socially responsible behaviour. The aim of this study is to highlight strengths and weaknesses, similarities and differences in the approach to CSR in the two countries. This paper might represent the starting point of a research stream to be further pursued in the near future.

**Keywords:** *corporate social responsibility, moral decision making, multidimensional approach*

## INTRODUCTION

Following the global financial crisis in 2008 and subsequent recession, the intensity of drivers moving businesses towards a more socially responsible behaviour dropped away: businesses aimed to maintain their share within declining markets hit hard by reduced consumer spending. Nevertheless, Grant Thornton's research shows that the strength of these drivers has recently reappeared. Over the past three years, cost management has increased to 67% becoming the most considerable concern for companies. In addition, two drivers rank in the top: customer demand (64%) and 'Because it is the right thing to do' (62%) (Grant Thornton, 2014). The social purpose is definitely a hallmark for businesses: in a long term prospect, companies have to act for the common good. Tending towards the common good is not just a current ambition. In ancient times, philosophers like Aristotle and Cicero argued that the purpose of a business was not oriented towards the good in itself, but the common good.

## METHODOLOGY

Our case study investigates the phenomenon of Corporate Social Responsibility in three different Finnish companies, from different sectors: Nokia, a multinational communications and IT company, now acquired by Microsoft; Kesko, a retailing conglomerate; Fortum, an energy company. These cases allowed us to highlight similarities and differences with the Italian context.

Our approach followed Kujala (2001). Influenced by Reidenbach and Robin (1988), who first developed a multidimensional ethics scale in order «to explore the manner in which individuals combine aspects of the different philosophies in making moral evaluations» (Kujala, 2001, p. 231). The multidimensional ethics scale identifies «the ethical evaluative criteria that individuals use in making a moral judgment» (Reidenbach and Robin, 1995, pp. 159–160). This multidimensional approach develops a 5-fold scale, based on an analysis of five ethical theories: (1) justice; (2) deontology; (3) relativism; (4) utilitarianism; (5) egoism. According to Reindebach e Robin (1990, p. 650), «the multidimensional nature of the scale can provide information as to why a particular business activity is judged unethical; whether, for example, the activity undertaken is perceived as fair or just, or whether it violates certain cultural or traditional values».

Firstly, the origin and evolution of Corporate Social Responsibility in Finland will be shortly presented. Secondly, the main features which characterize CSR in Finnish large companies will be highlighted (Panapanaan et al., 2003). Furthermore, special attention will be devoted to an analysis carried out in the small business context (Lähdesmäki 2005, 2010, 2012). Small companies are often marginalized by the academic debate. In reality they play an essential role in the national economy, since they represent an extremely relevant percentage of the total of businesses in Finland (99,7% in 2012). Finally, following the observation of the three companies – Nokia, Kesko and Fortum – a comparison with the Italian context will be carried out. What will be highlighted are the main concerns that companies – both Italian and Finnish – integrate in their business operations and the challenges facing the diffusion of socially responsible practices.

## RESEARCH QUESTIONS

The research questions (RQs) behind this paper are:

RQ1: How does CRS take place in the Finnish context? How can it be compared with the Italian context?

RQ2: What are the similarities and differences emerging from this comparison? What are the strengths and weaknesses? What could each learn from the other?

## LITERATURE REVIEW

The European Commission (2011) has defined Corporate Social Responsibility as «a concept whereby companies integrate social and environmental concerns in their business operations and in their interaction with their stakeholders on a voluntary basis». Therefore, the emphasis is on the voluntariness of the action. However, following the European Directive adopted on 15 April 2014 on the disclosure of non-financial and diversity information, it has been established that some large companies have to disclose certain social and environmental information.

Corporate Social Responsibility is a delicate issue. The management action is crucial in order to disseminate positive values within the company and to build an ethical corporate culture. Exhaustive and truthful communication is a way for the company to define its identity and put it to the service of others by helping to establish and strengthen relationships of trust. Informing and raising awareness are the two key imperatives a socially responsible business cannot escape. The preparation of appropriate social documents represents one of the main frontiers in the innovation of communication. These tools, of various types, can be included in the more general area of sustainability reporting. The purpose is not to limit management activity solely to the economic sphere, but to extend it to the social and environmental dimensions, following an approach known as of the triple bottom line (Slaper & Hall, 2011). After the spread of social reporting, the need to launch a standardization has been felt, in order to prevent self-referentiality and non-credibility issues (Rusconi, 2013). Therefore some guidelines have been developed, both nationally and internationally.

As to the origin of CSR in Finland, it started during industrialization (Juholin, 2004). The role of social responsibility was an exclusive matter of the company. Considered the center of the community, business supported and contributed to the building of schools, churches, public infrastructure.

Takala (2000) argues that this kind of relationship between business and the community was needed, as beneficial to both parties. Indeed, economic and social structures of the country were underdeveloped and the responsibility of the owners of the factories was in part supported by economic reasons, for example to get motivated and committed workforce in the factories.

Following the development of the welfare State, the aforementioned tasks were performed by the Government. But the relationship between business and society has changed again with the advent of globalization. This change stems from the further reduction of the capacity and power of the welfare state to take care of social, economic and environmental issues. Nevertheless, the role of the State as a producer of welfare is still very strong.

Keeping up with the times, taking into account the international context in which they operate, it is now also for Finnish companies a categorical imperative none of them can escape.

Kujala (2001) analyzed the ethical dimension in Finnish managers' decision-making processes through a overhauled multidimensional ethics scale. He submitted four well-built moral dilemmas. The results showed that teleological thinking (in particular, utilitarianism) represents a significant moral dimension. So, it plays an important role in the decision-making process of managers in Finland. Although Finnish people are considered the benchmark in terms of integrity and honesty in the business world, owners' benefits come first (Svendsen, 1998).

On the other hand, we cannot expect otherwise: the economic purpose, even if not sufficient, is still a necessary prerequisite. In Kujala's research it is also interesting to notice that in some situations Finnish managers combine relativist thinking with ethical thinking, which are diametrically opposed. This shows the complex nature of morality in decision-making and the difficulty in identifying a single decision model.

Another interesting contribution has been made by Panapanaan et al. (2003). They have presented a roadmap of the main features of CSR in Finnish companies. They showed that all the Finnish companies interviewed defined Corporate Social Responsibility as compliance with strict Finnish laws and regulations. Indeed, many business sectors are highly regulated in Finland. We can notice from the final framework drawn how the main drivers boosting CSR are globalization and main stakeholders, especially regulators.

The framework works as the starting point for an enterprise to identify its current position, its problems and management actions. The framework is straightforward. It may look simple, but touching all aspects of CSR in management processes is definitely a challenging task that requires commitment, time and resources. It also may not reflect corporate dynamics in its entirety and therefore needs to be checked and verified.

It still represents a useful tool to all those companies that want to implement social responsibility. As such, the first step is the identification of the main areas of CSR and of the social parameters relevant to the enterprise. The assessment of the parameters would lead to the decision whether to pursue CSR management. Such decision would entail commitment, time, resources, managerial skills and effective cooperation.

In a small business context (Lähdesmäki, 2012), the main stakeholders (employees, customers, suppliers and local community) have expectations and needs for which the company is responsible. These expectations are not directly transferable as part of business operations. Indeed, they are first resolved within the company where their legitimacy, power and urgency (Mitchell et al., 1997) are evaluated. Interpreting the needs of stakeholders in relation to business operations is considered primarily a managing director's task, since he relates with most stakeholders. Such interpretation will then affect the managerial behaviour, which implies a certain level of responsibility towards

stakeholders. Moreover, by considering the corporate success in terms of CSR, the entrepreneur will act in accordance with the assessment made with relation to their future interactions with the company itself. The building of CSR meaning in managerial decisions with regard to the relationship established with stakeholders is examined by introducing the notions of reputation, proximity and identity. These studies show that, in the context of small and medium-sized enterprises, CSR is seen as a contradictory phenomenon, representing at the same time an asset and a liability.

## THE FINNISH CASE

The first company analyzed is Nokia, which is based on three strong business divisions: Nokia Networks, which offers network infrastructure, hardware and services; Here, providing maps and location services; Nokia Technologies, which pursues advanced technology development and licensing. Since 2002, Nokia has always reported on corporate social responsibility through its sustainability Nokia People & Planet reports. Since 2008, Nokia has incorporated CSR also in the annual Form 20-F, filed with the United States Securities and Exchange Commission.

Nokia has an integrated view of responsibility, considering it part of everything the company does. The main factors of global sustainability are economic development, education, human rights, health and safety, urbanization, climate change. Nokia uses its technology as part of the solution in many global challenges. Indeed, its mobile technology has been used to provide access to learning materials in hard-to-reach areas and to send real-time data to prevent diseases as well as to map water points in water-scarce areas. In addition, Nokia has brought Internet to hundreds of millions of people who never had access to a computer. The materiality assessment shows how the most significant indicators for Nokia are customer satisfaction, privacy and security, economic impact and improving people's lives through mobile technology. These indicators still have a major impact on Nokia's business and on sustainable development and stakeholder interest.

Kesko is one of the most important retailing conglomerate, with a market share of 43,2%. It is engaged in food trade, home and specialty goods trade, building and home improvement, and car and machinery trade. Supporting corporate responsibility is one of their most important values: indeed, it is at the top of their pyramid of values.

In addition to being a core value, responsibility in Kesko is a strategic choice that the company pursues taking into account economic, social and environmental aspects. Its responsibility program is based on *responsible working principles* which have to be followed by everyone and everywhere in the company. Kesko aims to build a better society, offering high-quality work, mitigating climate change, but above all buying and selling responsibly and supporting customers in making sustainable choices. To this purpose, Kesko implements some measures designed to meet these goals. The materiality

assessment of the company highlights the indicators having the strongest impact on the company and on stakeholders: financial profitability, good corporate governance, product safety and quality, accessibility and multi-channel approach.

Fortum is an energy company which reorganized its business structure in 2014. Its various functions are located in four business divisions: Power and Technology, Heat, Electricity Sales and Solutions, Russia and Distribution.

Power and Technology consists of hydro, nuclear and thermal power generation, technology and R&D functions. Heat, Electricity Sales and Solutions includes combined heat and power (CHP) production, district heating activities and business-to-business heating solutions, solar business, electricity sales and related customer offering, and Corporate Sustainability. The Russia Division includes power and heat generation and sales in Russia. The Distribution Division is responsible for Fortum's distribution activities to a total of 0.9 million customers in Sweden.

Fortum's mission is «to create energy that improves life for present and future generations and to provide sustainable solutions for society and deliver excellent value to its shareholders».

CSR is seen as an integral part of Fortum's strategy. Business and responsibility are tightly linked, underlining the role of sustainable solutions as a competitive advantage. In its operations, Fortum balances economic, social and environmental responsibility.

The materiality assessment shows how the main indicators considered are nuclear safety, mitigation of climate change, nuclear waste and final disposal, environmental emissions, long-term profitability.

Despite the different nature of business, the degree of social and environmental responsibility displayed by the three companies is very strong. This is shown not only by the external acknowledgements received, but also by feedbacks and employee responses to satisfaction surveys.

Also Nokia, despite the acquisition by Microsoft, has been able to maintain the right spirit, continuing to care about environmental and social issues. This shows that the typical Finnish quality called *sisu*, roughly meaning guts and originally intended as a force to overcome obstacles, is not only due to the climate they operate in, but also to their competitive behaviour. Despite undergoing a major transformation, Nokia has carried on being attentive to sustainability issues. We should not view the continuous layoffs caused by the acquisition as affecting any CSR commitment. A company has to achieve its fundamental economic balance first by resulting competitive on its market. It is a necessary condition, without which corporate survival is never guaranteed.

## COMPARATIVE OVERVIEW BETWEEN ITALY AND FINLAND

In order to compare Corporate Social Responsibility in Finland and Italy, we use as benchmarks the drivers, the main concerns that companies intend to integrate in their operations, the tools they use, the guidelines followed, and the main challenges regarding the diffusion of CSR.

In Italy, the main drivers are customer demand (72% in 2014) and management costs (+ 18pp compared to 34% in 2011) (Grant Thornton, 2014). Increased transparency of information and the growing importance of social media are key factors to consider when presenting business actions that are more and more in the public spotlight. Customers are not only able to protest against the company that pursues practices deemed as socially unacceptable but, in an increasingly digital world, they are able to 'vote with their feet' by identifying alternative products and services from competitors with stronger ethical credentials. The role of cost management has become increasingly important: it is now acknowledged that the trade-off between economic development and environmentalism is no longer obvious. Rather, the pursuit of sustainability can be a powerful path of reinvention for all businesses that have to deal with limited resources and the purchasing power of their customers (Grant Thornton, 2014). Thornton's results show how Italy, along with Germany, considered the tax concessions granted to companies who adopted socially responsible behaviour as the main drivers, next to brand building (33%) and employees recruitment/retention (29%), while the latter is the first key factor being considered in Finland. According to Panapanaan et al. (2003), the main driver is globalization. The reason can be found in the fact that nowadays companies are increasingly internationalized and have to accommodate signals coming from the global market and respond to these signals in order to maintain their position on the market.

Stakeholders have also a considerable weight, confirming Grant Thornton's findings (2014). Regulators are particularly important among them. They establish rules to be followed especially in the pharmaceutical and food industries. This can be seen in the Kesko case, previously analyzed.

As to the main concerns affecting the countries being compared, we can notice that they are more or less the same (environment, discrimination, freedom of association, remuneration, health and safety). The exception is corruption, which affects only Italy while does not touch Finland at all, which is one of the least corrupt states in the world according to the list published by Transparency International (3rd place in 2013 compared with 69° of Italy). Another exception is diversity, which does not affect Finland, given the uniform ethnic nature of Finnish society.

In Italy, the most popular instrument being used is *bilancio sociale*, whose aim is to give visibility to stakeholders' needs and expectations, to provide information regarding the social aspect of the business, verifying its compliance the statutory objectives, communicating the value created. According to the International Business Report by Grant Thornton (2014), 24% of Italian companies (15% in 2011) publish information on corporate social responsibility and sustainability and integrate



them both into the financial statement (20%) and in specific documents (4%). The percentage observed in Finland is lower (18%).

Nowadays, a lot of companies use GRI guidelines in their sustainability report (according to a KPMG survey (2011), more than half of N100 companies use GRI in 37 out of 41 countries surveyed). More than 90% of companies are based in South Korea, South Africa, Portugal, Chile, Brazil and Sweden; less than 50% in Kazakhstan, Romania, Denmark and Nigeria.

Among the most innovative tools used by Italian companies to fulfill their social responsibility, a very important role is played by Cause Related Marketing (CRM). Indeed, Italy is the first country in Europe to have a CRM observatory: Sodalitas-Nielsen Observatory monitors the progress of Cause Related Marketing in Italy, measuring the performance of investments and advertisements in CRM on the Italian market and their distribution through several media (web, radio, TV, newspapers, magazines, billboards). The Observatory also lists the names of big spenders among companies on a regular basis. In June 2013, Sodalitas Foundation published some data compiled by the Observatory with regard to the investment in CRM made in Italy in 2012, which amounted to 207 mln EUR, a 18.4% decrease compared to the previous year. CRM advertisements realized were 12,791, against 24,207 in 2011 (47.1% less). The crisis has affected the level of investment in CRM on almost all media considered: firstly, television and radio; the only one that is bucking is the cinema, where investment in CRM rose from 208,000 to 2.148 mln EUR. As to the market sectors affected, the situation has changed: while in 2011 the record belonged to the clothing industry (18.5% of the market), in 2012 the food industry topped the ranking (13.5%; in 2011 it was 3.5%).

In addition to the Cause Related Marketing, corporate volunteering is growing in Italy: companies adopting such socially responsible strategy are increasing. They give employees the opportunity to devote themselves to the community through charity activities, on the basis of their skills and preferences. As it is clear from the last report drafted by the Socialis Observatory at Errepi Communication and IXE Institute (2014), only 11% of companies choose this specific formula to implement their corporate social responsibility, to which we can add parallel and related initiatives, such as corporate philanthropy (24%) and donations (26%).

If in the past companies mainly considered donations, now 54% of respondents have implemented measures to cut paper waste, water, lighting and food scraps. Other relevant actions are investments for energy saving (36%), introduction or enhancement of recycling (33%), adoption of new technologies to reduce pollution and improve waste disposal (33%).

Other investments take place in areas such as sport, solidarity, art and culture. Scholarships (18%) or product donations (16%) are also present. Italy invests on average 169,000 EUR, for a national total of just under one bln EUR. They are funds that, at least in 46% of cases, end to suppliers who adopt the

same kind of environmental approach. Attention and savings are the key words emerging from the results of the Socialis report: on the one hand attention to waste, to employees, to the environment where we live, to the territory where the company is based, while on the other hand we have a decreasing consumption of raw materials and resources, a greater control of the supply chain and more attention to the overall costs.

The advantages enjoyed by Italian companies were mainly about corporate reputation, useful to positioning and image (47%). Therefore initiatives on which companies invest should be visible (40%) and linked to the geographical context (31%). It is better if they involve employees (28%). Other goals are the attraction of new customers and effects on climate (27%). Ethical issues and those regarding sustainable development, as well as the relationship with partners and governments, come only third. However, as the survey shows, the results concern mainly the working atmosphere and staff involvement. Only 36% of companies observed a tangible reputational return, while those policies provided greater visibility to 21% of them.

Both Italian and Finnish companies follow international guidelines: OECD guidelines (2011), ILO principles, UNGPs guidelines, SA8000 standards, AA1000 standards, ISO 14001 for environmental certification, ISO 9001 for quality certification, Global Compact principles, PRI principles, GRI indicators, Ecolabel certification, etc.

As to national guidelines, in Italy we have GBS standards (for private companies and public administrations) and ABI/IBS standards (for retail banks), while in Finland FSA standards as well as industry-specific guidelines are applied.

Finally, the main obstacles to the diffusion of CSR in Finland are related to the ability to ensure the competitiveness of Finnish Industries in a context where the bulk of production moves to low-cost countries, to deal with demographic change and to promote ethnic diversity. Demographic change, in particular, puts the emphasis on ageing in Finland: since the size of the working-age population decreases, it is vital that as many working-age people as possible are able to enter the labour market and that the employment rate increases. It is necessary for Finnish companies to ensure stable employment and job security for younger generation. Although environmental issues are some of the most important challenges – for example reducing greenhouse emissions is one of the main priorities in Finland – the climate is very cold and long travel distances do not provide the most favourable setting to do this.

In Italy the main challenges include an increasing involvement of public authorities in the CSR debate and the implementation of a strategic approach to social responsibility involving the enterprise as a whole. Indeed, public authorities should ensure both the legal framework and the economic and social conditions that allow companies to develop their socially responsible activities within their reference

market. Companies, on the other hand, should take a different strategic approach: too often the difficulty of incorporating social responsibility in the long-term business strategy is due to the lack of a strategic vision. In fact, those companies that have always included social responsibility in their vision and mission have not encountered major problems in adopting socially responsible initiatives.

According to the Socialis Observatory, proposals for supporting CSR are mainly about the diffusion of organizational reward norms, such as tax breaks, awards, certifications (75%), academic training which should be more ethical (40%), the creation of a corporate brand of social responsibility (34%), greater collaboration between business and the non-profit world through meetings, joint initiatives, exchange of expertise (33%).

As to the role of universities, in Finland they are very active in the CSR field. A clear example of this is the Environmental and Corporate Social Responsibility programme of the Helsinki School of Economics (HSE). Launched in 1993, since 2000 it has given more emphasis to social responsibility issues, while the Centre for Responsible Business (Cereb) at the Turku School of Economics (TSE) – established in 2003 – is the first Finnish academic centre for responsible trade, specialized in research, education and multidisciplinary development.

## CONCLUSIONS

The analysis of documents of Nokia, Kesko and Fortum shows how these companies are very active towards the improvement of the environmental and social impact of their activities. They do not act according to a generic view of corporate social responsibility. Instead, they tend to adopt the approach that best suits their specific strategies.

Reading their sustainability report, both Nokia and Kesko view responsibility as a daily commitment, emphasizing the fact that all daily actions must take into account social and environmental issues. Kesko views CSR as a strategic choice in order to remain competitive in the market. Fortum too considers corporate social responsibility as an integral part of its strategy. Ideally, any company should integrate CSR policies in its overall strategy, focusing on those actions that bring structural benefits to both itself and society. Social concerns should therefore become an integral part of the company's value proposition.

As to the governance the three companies, according to the Finnish Corporate Governance Code, use a one-tier model, because they are listed companies. They make sure that social and environmental issues are reviewed periodically at all levels, from low- to high-rank decision-making bodies. They have won several awards for good governance practices.

Among the tools used by the companies in question, the sustainability report and the ethics code are certainly the most important. There is no lack of volunteerism, fundraising practices and cause related

marketing actions, especially by Nokia and Kesko. The latter also monitors the impact of its environmental measures on the financial result, through an environmental accounting system.

As to the standards used to achieve the sustainability report, Nokia, Kesko and Fortum use the GRI G4 (2013). The GRI does not require a minimum content, but it proceeds by flexible degrees of conformity, providing three different levels of applications. The company should state the level chosen in order to understand the reporting process: level C is for those companies that use only few indicators, while level A is for those that use all of the core indicators. The company may also have the sustainability report certified by a third party, in which case the symbol + is added next to the application level achieved. Fortum is the only one of the three companies which claims to have used the GRI G4, following an application level B + in the sustainability report 2013 (the third-party institution is the consulting firm Deloitte & Touche). On the other hand, Nokia and Kesko do not declare the application level chosen, despite having the verification process carried out by an external body (PricewaterhouseCoopers).

Other standards used by Fortum and Nokia are the ISO 14001 environmental management certification, the OHSAS safety and security certification, the SA8000 ethical certification and - only by Kesko - the ISO 26000 guidelines. Fortum and Kesko also adhere to the AA1000 standard, not mentioned in the 2013 Nokia sustainability report.

In terms of ethics, the three companies have a code of conduct, either inspired by typical Finnish cultural values (for Nokia) or by corporate values (for Kesko and Fortum). Of course such codes mainly set out general principles, not being able to provide detailed instructions for all possible situations. These principles are already universally accepted (working in a safe and healthy environment, promoting respect for human rights and so on). Fairness in the use of information and the degree of collaboration with the different stakeholders are also mentioned. Managers or supervisors are always available if needed.

Observation of the three cases shows how a company should never be content with the awards received. Measurements are not always reliable and comparable. Moreover, there is not always a meaningful correspondence between the awards won and how they actually mirror the way companies operate. Adhering to international standards may not be enough. A constant welfare-seeking activity is needed, regardless of any award one might be given. Companies need to foster the integration between business and society, adopting the principle of shared value (Porter & Kramer, 2006): in other words, the choices and decisions adopted should bring benefits to both parties. Corporate social responsibility should not be seen as some luxury one cannot afford in times of crisis, rather as added value, same as innovation. All businesses should perceive social responsibility as a way to build and promote shared values.

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## WATER MANAGEMENT: LEGAL MODELS FOR DEVELOPING PUBLIC - PRIVATE INNOVATION AND RESEARCH

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### ABSTRACT

Water has functional and socio-economic characteristics which render it unique as a product on the market. It follows that particular attention must be dedicated to its careful and rational usage, avoiding waste and promoting re-usage of this asset. This culture of recycling is strongly promoted within the EU legal context, which applies it directly to water. It is thus necessary to innovate and find organisational solutions that are capable on the one hand of promoting access to research resources made available by the EU itself, whilst on the other hand managing the financing obtained with the involvement of public and private partners within their respective roles. Since Italian law lacks public law provisions that are capable of providing an adequate response to that requirement, it is necessary to verify whether company law might enable satisfactory aggregative innovative solutions to be developed. Our paper suggests to implement the network contract in water sector because it can provide an effective normative and operational support.

**Keywords:** *Water - Water Management - Legal Models - Innovation and Research - Circular Economy - Italy - Public and Private Partners - Public Law Regulations - Business Law - Network Contract.*

### INTRODUCTION

Amongst other reasons due to the characteristics of water as an asset, the provision of water offers an interesting area for experimentation in order to test organisational arrangements that are aimed at promoting integration between expertise that is disparate yet conducive to the pursuit of shared goals. In fact, as is stated in the first recital to Directive 2000/60, water "is not a commercial product like any other but, rather, a heritage which must be protected, defended and treated as such" [Rainaldi and Scintu, 2011]. There is thus a need on the one hand for technical expertise in the field of engineering, business administration and programming, but also on the other hand for product and procedural innovations in order to render the models for managing and providing the service efficient and effective.

Within this context, the law performs the essential function of defining the inter-linkage between the different actors which, through interaction, also develop synergies that are beneficial for the aims cited.

However, public law does not appear to offer adequate instruments, such as those that could perhaps be identified within recent Italian legislation enacted in the area of company law. Lawmakers have in fact introduced private law institutions that may could be significant as organisational models in terms on the one hand of the interaction between public and private sectors (also for the purposes of so-called technology transfer) and on the other hand of the organisation of economic activity in order to enhance competitiveness through innovation.

The aim of this research is thus to verify the potential of the legislation referred to through the prism of Integrated Urban Water Management (IUWM), to contribute of the definition of a law efficient model.

On a methodological level, it will thus be necessary to set out the problem issues raised by water not so much with regard to service management as rather the innovation and capacity of public law regulations concerning integrated urban water management to offer instruments to enable its *transition* from research centres to installations by constructing a legal bridge that models the organisation on innovative activity.

## THE COMMUNITY LEGAL AND FINANCIAL REFERENCE FRAMEWORK

The enhancing of the efficiency of networks, installations and purification procedures requires an availability of financial resources in order to carry out the necessary work, and even prior to this the pre-competitive study and development of innovative technical solutions. It is only in this way that positive implications can be obtained both on the setting of rates and on the overall economic and social system.

In other words, the theoretical and experimental analysis is accompanied by the need - right from the design stage - to develop partnerships with undertakings or legal entities in order to carry out in the first place an empirical check of the results and in the second place to secure a swifter connection with the manufacturing sector which should actually (and ultimately) benefit from the outcome to the research financed. The definition of the project and the roles performed by the various partners within it does not regulate legal relations between them. It is thus necessary to clarify: a) the legal relations between them, and b) the organisational model that must be adopted in order to regulate specifically cooperation (i.e.: information flows, technical and operational arrangements applicable to experimentation, management of researchers and any employees dedicated to such work).

Due to its physical and chemical characteristics, but also its functional characteristics [Fiorentini, 2010; Frosini, 2010], water cuts across the entire spectrum of the issue presented above and is closely linked to research and innovation from various standpoints. In fact, if the perspective is limited to Integrated Urban Water Management (IUWM) [Nivarra, 2015], the relevant issue in terms of water provision is from the engineering perspective the construction and maintenance of efficient infrastructure, whilst in

terms of physical and chemical management the key issues are processing, healthiness and the arrangements for recycling household and industrial water [with regard to the Urban Waste Water Treatment Directive (91/271/EEC), see the study *European Commission DG Environment Compliance Costs of the Urban Wastewater Treatment Directive Final report September 2010*].

The importance on a legal level of the issues referred to above is particularly evident within the Community context where water flows along a normative and operational platform which appears to be particularly suited to the experimentation of organisational models that are capable of involving business, the environment and innovation-research in a manner that generates synergies. In fact, at the end of 2015, the paper *Closing the loop - An EU action plan for the Circular Economy* [Communication from the Commission to the European Parliament, the Council, the European Economic and Social Committee and the Committee of the Regions COM(2015) 614 final, of 2 December 2015] was presented, in which specific attention is dedicated to water. In order to move beyond the different national practices within the legal framework of the Union, amongst the actions planned for 2016 and 2017 the Commission has proposed the elaboration of a guidance plan involving the issue of recommendations.

In addition, in order to raise awareness of the importance of good practices also amongst consumers, at the start of 2017 the Commission will introduce rules concerning minimum water re-usage requirements. The technical proposal is currently being developed by the Joint Research Centre with the cooperation of the independent Scientific Committee on Health and Environmental Risks (SCHER). Thirdly, there is an important point of contact between research and innovation in relation to the need to support in particular the improvement of waste processing installations, the development of intelligent technologies and the reduction of energy consumption.

The process referred to above intersects on a more general level with the model of economic development, a further issue that is well-established on Community level, namely the "circular economy" which is "essential to deliver the resource efficiency agenda established under the Europe 2020 Strategy for smart, sustainable and inclusive growth" [cf. COM(2014) 398 final, *Towards a circular economy: A zero waste programme for Europe*]. In other words, the circular economy aims to overcome the "linear model" based on the development of resources for producing goods, destroying those goods and generating waste in order to achieve an economy that is less reliant on virgin resources, making up for their usage by partially reusing waste. This arrangement implies not only a form of cultural progress that impinges upon consumer choices but also the recourse to innovation and research in order to develop manufacturing techniques which on the one hand facilitate both the containment - in quantitative terms - of waste and - in qualitative terms - its re-usability, whilst on the other hand reducing the environmental impact of waste that cannot be used at all [see in particular COM(2014) 398



final, *Towards a circular economy: A zero waste programme for Europe*, § 3.3. See also COM(2011) 21 final, *A resource-efficient Europe - flagship initiative under the Europe 2020 strategy*].

## **"CIRCULAR ECONOMY" AND THE ROLE OF THE REGIONS.**

Adopting a twin-track approach, IUWM features a dual aspect, on the one hand financial and on the other hand legal: the former measures the efficiency of the installations and the organisational model for the management-organisation of the services, whilst the latter designs this model. Innovation and research thus close the loop, enabling the legal model (essentially linear) to be projected onto the political-economic model (which is essentially circular). It is this dual perspective (i.e. innovation and research) that enables the entire traditional organisational framework to be reconsidered in a different light with regard to the physical and technical means by which the service is provided through to the self-sustainability of the model vis-a-vis the rates to be charged and the costs to be borne by investors. On the other hand, innovation and research in turn require a complex legal vehicle equipped with multifaceted tools so as to enable a difficult balance to be struck: in fact the centre of gravity results from the balancing of the different interests vested in the public and private actors which converge on a shared goal, following a path in which both are actively involved, albeit performing different roles.

The EU, which regards research and innovation as decisive factors in enhancing competitiveness and collective well-being [cfr. Commission Communication COM(2014) 339 final of 10 June 2014, *Research and innovation as sources of renewed growth*, along with work on the amendment of the *Small Business Act* to incorporate the Europa 2020 indications] assigns a role to the regions of the various EU Member States which is anything but secondary in order to respond to crises and create the prerequisites for economic growth. The goal is pursued from two angles: on the one hand, active and multi-level interaction between the different actors within the territory, which are an expression of its socio-economic requirements, and on the other hand the incorporation of the different solutions proposed into a global policy for sustainable and inclusive growth.

Against this backdrop, particular attention should be dedicated to the *Smart Specialisation Strategy (SSS)*: a European law term which defines the strategies for innovation elaborated on regional level, but which are assessed and systematised on national level. The objective is to avoid fragmented action, by coordinating the integrating research and innovation policies. This has the effect of facilitating the development of regional innovation strategies that are capable of exploiting manufacturing excellence with regard on the one hand to the strategic positioning of the territory and on the other hand to the prospects for development of the economy overall. The objective is thus pursued by allocating to individual regions within the European context the task of developing systems for innovation that are capable of exploiting sectors of manufacturing excellence emerging throughout the territory, whilst also

taking account of the overall economic context. It is in fact clear from the Community documents that "clusters can provide a fertile combination of entrepreneurial dynamism and contribute to the building of a knowledge-based economy, in line with the Europe 2020 strategy". However, this result can only be achieved by creating contact between potentially innovative bodies operating within the local context [Document accompanying the Commission Communication on Regional Policy contributing to smart growth in Europe 2020 COM(2010) 553 final -SEC(2010) 1183: Accompanying document- p. 5 et seq], including universities and research centres [Document accompanying the Commission Communication on Regional Policy contributing to smart growth in Europe 2020 COM(2010) 553 final -SEC(2010) 1183: Accompanying document- p. 19 et seq].

The SSS is an important locus for intersection also with specific regard to research into water. The European Regional Development Fund (ERDF) in fact offers financing for innovations in the area of the reuse of water where such innovation is aligned with the *Smart Specialisation Strategies*, which each Member State and each region has been required to adopt.

It is now necessary to verify whether Italian legislation contains provisions that enable organisational models to be drawn upon and implemented on a practical operational level in order to implement the European indications. With that in mind the focus has been placed first and foremost on public law regulations concerning IUWM, and secondly on networked contractual relations between undertakings.

## **WATER MANAGEMENT AND THE DOMESTIC LEGISLATION IN ITALY**

The management of Integrated Urban Water Management has been comprehensively revamped since 1994 by the so-called Galli Law (Law no. 36 of 1994) and subsequently by the Environmental Code (Legislative Decree no. 152 of 2006, Articles 147 et seq). Water services are organised on the basis of "optimal territorial units" defined by the region (which may even designate the entire region as one single territory). A "unit governmental body" is established in each unit. It ultimately amounts to a compulsory consortium [Nivarra, 2015], which must be adhered to by the local territorial bodies falling within the unit (Article 147 of the Environmental Code).

The unit governmental body draws up an important document, known as the "unit plan", in turn comprised of multiple documents (Article 149 of the Environmental Code), which:

- describes the "substance of the infrastructure to be allocated to the service manager" (recognition of infrastructure);
- identifies ordinary and extraordinary maintenance work, also indicating the objectives that are to be met (intervention programme);

- defines the "operational structure" that will be adopted by the operator in order to ensure on the one hand the service and on the other hand the implementation of the intervention programme (management and organisational model);
- provides a forecast, including the preparation of a dedicated accounting document, of the "trend of management and investment costs net of any public grants" (economic and financial plan).

Further rules relate to different aspects of the provisions governing the management of water services with reference to their allocation (Article 149*bis* of the Environmental Code) and the regulation of a variety of aspects: from relations between the unit governmental body and operator to the powers of control of the governmental body, from the equipment that the operator must have to rates and upgrading work (Article 151-158*bis* of the Environmental Code).

Thus, despite the points stated in the "Position Paper" of the Services of the Commission on the Preparation of the Partnership Agreement and Programmes in Italy for the 2014-2020 period, there are no specific rules to facilitate, within national legislation, an openness towards organisational models that are capable on the one hand of involving subjects that can introduce innovation, efficiency and technology and on the other of attracting public and/or private financing.

It thus appears necessary to shift the attention to the various regulatory frameworks put in place by the legislation which have as their *direct* aim the stimulation of innovation and competition between undertakings on the market.

## **NETWORKED RELATIONS AS AN ORGANISATIONAL MODEL CONDUCIVE TO INNOVATION AND RESEARCH IN RELATION TO WATER**

Alongside the older and consolidated consortium contract, the legal system now offers another innovative form for achieving coordination and partial integration between *undertakings*: the network contract mentioned above. Following its introduction by Article 3 of Decree-Law no. 5 of 2009 in order to promote innovation and to enhance the competitiveness of undertakings, it has been amended and supplemented on various occasions, which have now turned it into a very different instrument from that created only five years ago [Locorotolo, 2015; on networks see by contrast Teubner, 2011; Weitzenboeck, 2012; Cafaggi, 2011]. It may at present be regarded as an instrument through which the adhering undertaking organises, develops and structures its operations or a particular aspect of its operations through partial integration with other undertakings, thereby achieving results that it would not have achieved on its own (in terms of innovation and competitiveness). The network contract thus enables acts/operations to be planned in view of a common result to which participants may contribute

in a highly disparate and different manner (in both quantitative and qualitative terms, including with specific projects) [Camardi, 2009; Cafaggi, Iamiceli and Mosco, 2013], provided that they are consistent with the shared programme and that progression towards the goal is regularly reviewed. Thus, a network contract need not necessarily have as its object commercial activity; similarly, research into or the development of a product need not relate to an innovative product/service.

The fact that the network contract, at least for the purposes of the application of national legislation, may only be concluded between undertakings [see further Patriarca, 2011; Maltoni and Spada, 2011 *Contra* R. Santagata, 2011] is an obstacle that is more apparent than real for its actual adoption also in situations involving public bodies or subjects not normally regarded as commercial entities, at least pursuant to the definition contained in Article 2082 of the Civil Code. Various uses of the network contract may in fact be hypothesised: as a contract to which undertakings controlled by public bodies may adhere or as a normative model on the basis of which an atypical agreement may be concluded between public and private bodies. In the former case the provisions on the network contract will be applicable, including the possibility to pool assets intended for a specific project; in the latter case it will not be possible to benefit simply on the one hand from the provisions on the enforceability of registered documents guaranteed by publication in the register of companies, and on the other hand from the legal personality of the network which may be obtained pursuant to Article 3(4-*quater*) of Decree-Law no. 5 of 2009 [Ibba, 2014; Marasà, 2014; Serra, 2014; Caprara, 2015,].

If the scope of the analysis is limited to water and the environmental sector, the need to subject the results of research to operational experimentation necessarily implies the involvement of public bodies (such as for example the unit authority and universities) along with private entities (such as engineering companies), which could regulate the respective relations through consortium-based (or networked) contractual arrangements.

Irrespective of whether or not it has legal personality, the network contract is thus one of the possible forms of aggregation between undertakings seeking to obtain recognition by the region or to establish one of the "public or private bodies" participating in the creation of a regional network. Furthermore, irrespective of whether or not it has legal personality, a network contract aims to enhance competitiveness and innovative capacity, which will be measured only in relation to member undertakings as such capacity relates to the manner in which the project is implemented (i.e. execution of the contract), and not to the legal structure used to organise its implementation [Caprara, 2015 II. *Contra* Barba, 2015]. There is nothing to preclude the possibility that this organisational structure may promote or act as a founding partner of a corporate entity such as a start-up, which could take on responsibility for placing the innovative product on the market. For example, in order for a social start-up to obtain that status it must have as its "exclusive or predominant commercial object the

development, production and marketing of innovative goods or services with high technological value" (Article 25(2)(f) of Decree-Law no. 179 of 2012), whilst however operating "exclusively within the sectors indicated in Article 2(1) of Legislative Decree no. 155 of 24 March 2006 (Article 25(4) of Decree-Law no. 179 of 2012), which expressly provides, *inter alia*, for the "protection of the environment and the ecosystem (...) with the exception of the activities of the collection and recycling of household, special and hazardous waste on a habitual basis". As an innovative start-up that company could therefore draw on hitherto unprecedented (under domestic law) systems of financing (for example crowd funding) [cfr. Article 30 of Decree-Law no. 179 of 2012, Article 50-*quinquies* of Legislative Decree no. 58 of 1998 and Consob Regulation no. 18592 of 2013]. In this way innovation presents itself on the market and is capable of securing financing, even when public funding is exhausted, or of itself becoming an instrument for the direct or indirect financing of new research.

## CONCLUSIONS

Different sectors of research require legal models that are capable of promoting technology transfer in such a manner that enables it to be used by the undertakings or bodies concerned, whilst being beneficial, also in social terms, for the community as a whole.

Water, on which this paper has focused, needs to innovate and find organisational solutions to combine research, resources made available by the EU for enhancing competitiveness and collective well-being. Within this context the «circular economy» principles enable less reliant on virgin resources, making up for their usage by partially reusing waste. Into the soft and hard UE law there is no suggestion about the role of public and private enforcement and the related organization models.

Absent any specific public law legislation, business law gives efficient and innovative organisational matrices. Our research suggests to implement the network contract in water sector as an effective normative and operational support.

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## INFORMATION SHARING AND COMMUNICATION STRATEGIES: A STAKEHOLDER ENGAGEMENT VIEW

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### ABSTRACT

**Purpose:** The increasing competitiveness in market configuration is pushing companies to explore new ways to improve their competitive advantage and their chances of survival. According to managerial studies and empirical evidences offered by managerial literature, a possible strategy to improve companies' performances requires the involvement of stakeholders as complex actors endowed with relevant resources and knowledge. Starting from this key point, the paper states that information sharing and communication strategies could offer an effective contribution to creating pre-conditions for stakeholder engagement.

**Design/Methodology:** Reflections herein are verified via Structural Equation Modelling (SEM) on a sample of Italian companies with the aim of verifying whether there is a positive relationship among variables such as use of informal instruments of communication, publishing of social reports, number of years in which social reports are published, and availability of information on company and companies' market capitalization (Market Cap).

Reflections and empirical results are discussed from both a theoretical and a practical point of view.

**Findings:** The paper enriches previous studies on the topic of communication strategies, offering evidences on the contribution that voluntary corporate disclosure can have in terms of impact on companies' market value. Accordingly, the paper proposes first reflections on the possible role of information sharing and communication strategies as drivers in creating pre-conditions for stakeholder engagement.

**Originality:** The paper proposes reflections and empirical evidences that offer opportunities to better understand the relevance of information sharing and communication strategies as drivers in creating pre-conditions for stakeholder engagement.

**Keywords:** *stakeholder engagement, corporate communication, market relationships, companies-stakeholder interactions, voluntary corporate disclosure, market capitalization.*

## INTRODUCTION

The increasing complexity and competitiveness of social and economic configurations is pushing both researchers and practitioners to identify possible new ways to improve the capability of organizations to survive in a challenging scenario (Schoemaker, 1992; Payne and Frow, 2005). Traditional managerial models and organizational approaches based on the view of a company as an autonomous entity able to influence the market and encourage stakeholders towards specific behaviours and aims are proving increasingly inefficient (Birkinshaw, 1997; Reinartz *et al.*, 2004). The consequence of the old market approach is the increasing risk of many organizations being unable to understand the evolution of market, with negative effects on their chances of survival (Buysse and Verbeke, 2003; Freeman *et al.*, 2007; Barile *et al.*, 2012; Golinelli *et al.*, 2012; Saviano and Caputo, 2013).

In the last few years, to overcome the risks and failures of the old approach, different researchers and research streams have tried to identify possible new ways, focusing attention on the ability of an organization to forecast the evolution of consumers' behaviours and lifestyles (Vrontis and Thrassou, 2007; Solomon *et al.*, 2012); on the organizational setting and models on which organizations' strategies and vision are based (Cummings and Worley, 2014; Senge, 2014); and on the instruments needed to acquire more information on the evolution of context and how better to use them (Campanella *et al.*, 2013; Di Nauta *et al.*, 2015).

Building on the different contributions offered by literature on the ways to face the emerging social and economic challenges, it is possible to identify a common element: the increasing attention afforded to the role and the relevance of stakeholders as actors endowed by knowledge, competences

and capabilities fundamental to the survival of every type of social and economic organization (Kandampully, 2002; Ayuso *et al.*, 2006; Vargo *et al.*, 2008; Hage *et al.*, 2010).

Donaldson and Preston (1995) define stakeholders as persons or groups with interests characterised by legitimacy in both procedural and substantive aspects of corporate activity. Building on this more general classification, it is possible to affirm that the concept of a stakeholder includes all individuals and groups influencing or able to influence organizations' behaviours, actions and strategies. According to Freeman (1984), the concept of a stakeholder is an inclusive domain that refers to employees, customers, communities and government officials, among others. The state of knowledge on the concept of the stakeholder is principally based on stakeholder theory (Freeman, 1994; Donaldson and Preston, 1995) as the general framework that underlies the need for companies to understand and satisfy the needs of different actors involved in their field of action (Jensen, 2001; Friedman and Miles, 2002; Freeman *et al.*, 2004).

According to An *et al.* (2011), stakeholder theory enriches previous studies on companies' strategies, underlining the need to meet multiple goals related to a wide range of stakeholders. Building on this, the real challenge for every type of organization is to understand the needs of different stakeholders and to develop strategies able to satisfy them in efficient, effective and affordable ways (Cleland, 1999; Barile *et al.*, 2013). This challenge requires overcoming the traditional perspective of organizations as autonomous entities to adopt a vision in which companies need to interact with their stakeholders and, if possible, they need to collaborate with them and to include them in their actions and strategies to maximize the potential for organizations to survive (Shindler and Cheek, 1999; Iandolo *et al.*, 2013; Barile *et al.*, 2014).

Accordingly, stakeholder engagement can be considered an opportunity for companies to share their values and to generate and circulate trust and knowledge in order to build a stronger collaboration with their stakeholders (Healey, 1997; Caputo *et al.*, 2016). In such a vein, the paper aims to investigate if information sharing and communication strategies can be considered useful pathways to build the preconditions required for the stakeholder engagement. It then proposes to investigate companies' approach to communication as the key pathway through which to act to improve the alignment between companies and stakeholders in order to build possible preconditions for stakeholder engagement. The contribution of companies' attention to information sharing and communication strategies to development of stronger relationships with stakeholders is verified via an empirical research oriented to investigate if there is a positive relationship among variables such as use of informal instruments of communication, publishing of social reports, number of years in which social reports are published, and availability of information on companies and companies' market value, measured by their market capitalization (Market Cap).



The rest of paper is structured as follows. In section 'conceptual and theoretical framework', a brief literature review on the topics on which the reflections herein are based is presented. In section 'methodology', the research design adopted with reference to empirical research is described. In section 'findings', the results of empirical researches are presented, and in section 'discussion' they are analysed both from theoretical and practical point of view. Finally, in section 'final remarks and future lines of research' some conclusions are presented and possible future lines of research are identified.

## CONCEPTUAL AND THEORETICAL FRAMEWORK

### *Stakeholder engagement*

In the last few years, an interesting debate on the role of stakeholders in companies' strategies has involved an increasing number of researchers (Freeman, 1984; Atkinson *et al.*, 1997; Jensen, 2001; Buysse and Verbeke, 2003). They have tried to explain what are the potential contributions that stakeholders can offer to the survival of companies in the emerging challenging scenario (Clarkson, 1995; Donaldson and Preston, 1995; Hart and Milstein, 2003) and what are the better approaches to use stakeholders' contributions without increasing the complexity that affects the management of companies (Mitchell *et al.*, 1997; Bryson, 2004; Freeman, 2010). Building on the fundamental definition of the stakeholder proposed by Freeman (1984, p. 46) as "any group or individual who can affect or is affected by the achievement of the organization's objectives", an increasing number of contributions have focused attention on the concept of stakeholders, on their role, and on strategies to improve the relationship between companies and stakeholders (Carroll, 1989; Hill and Jones, 1992; Clarkson, 1994; Donaldson and Preston, 1995; Mitchell *et al.*, 1997; Olander, 2006)

Analysing the state of knowledge on the domain of stakeholders, it is possible to note how different contributors have tried to investigate this concept in order to identify possible instruments and guidelines to classify stakeholders with reference to their relevance in the achievement of companies' aims (Mitchell *et al.*, 1997; Agle *et al.*, 1999; Moneva *et al.*, 2007). These contributions are supported by the awareness that the competitiveness of companies is related to their capacity to collaborate with stakeholders and to include them in their strategies and planning. However, at the same time, not all stakeholders can be engaged in companies' decisions, projects and governance without compromising the management and functions of companies (Hillman and Keim, 2001; Aaltonen, 2008; Saviano *et al.*, 2016).

According to Lawrence (2002), a possible solution requires the definition of a three step 'plan of engagement' for the stakeholders in which companies: 1) map stakeholders and their interests; 2) attempt to manage stakeholders and their social issues; and 3) actively engage stakeholders for long-term value creation. Following this indication, it is necessary to underline that different stakeholders

have different perspectives: therefore, any possible effective strategy of engagement requires that companies are able to identify and satisfy several needs and expectations (Parasuraman *et al.*, 1991; Buttle, 2009) and to recognise the best route to engaging different relevant stakeholders (El-Gohary *et al.*, 2006).

To this end, companies can obtain stakeholders' support in decision processes (Starkey, 2009), and they have the opportunity to acquire the specific knowledge owned by stakeholders (Wenger *et al.*, 2002; Coff, 1999). Accordingly, stakeholder engagement involves a stance of mutual responsibility, information-sharing, open and respectful dialogue, and an ongoing commitment to joint problem-solving (Svendsen, 1998; Waddock, 2002). Then, to build an efficiency, effective and sustainable strategy for stakeholder engagement, companies need to develop some preliminary conditions related to the information offered to stakeholders and to the ways in which they are transferred.

#### *Information sharing*

The existent literature on stakeholder engagement appears to be primarily focused on the definition of stakeholders' features and on the opportunities and challenges related to a stronger collaboration with stakeholders (Roome and Wijen, 2006). Few contributions and empirical researchers propose an investigation into the effects and opportunities for specific ways of engagement.

Among the studies on possible strategies to develop and improve stakeholders' engagement, some interesting advancements in knowledge are proposed with reference to the ability of companies to provide information on their pathways and decisions as strategies to improve the alignment between companies and stakeholders and, consequently, the opportunities for and advantages of stakeholder engagement (Keown *et al.*, 2008). Therefore, according to Roberts (1992), it is possible to affirm that the ability of companies to satisfy stakeholders' requests for information is relevant to build conditions for future collaboration and relationships between stakeholders and companies. Similarly, Deegan and Samkin (2009) assert that companies should provide to stakeholders all information related to their activities if they want to develop a condition of reciprocal understanding and loyalty. Therefore, building on these contributions, the paper states that:

**H<sub>1</sub>:** There is a positive relationship between the use of informal instruments of communication and the companies' Market Cap.

**H<sub>2</sub>:** There is a positive relationship between the availability of information on companies and companies' Market Cap.

Whilst recognizing the relevance of companies' ability to provide information on themselves as a strategy to build preconditions for stakeholder engagement, it is also necessary to underline that the ways in which information is transferred to the context can influence its impact on the opportunity for collaboration with stakeholders (Prahalad and Ramaswamy, 2004; Edvardsson *et al.*, 2011).

Accordingly, companies interested in developing a stakeholder engagement strategy should pay attention not only to the provision of information, but also to the ways in which it is communicated (Scholes and James, 1998; Morsing and Schultz, 2006).

#### *Communication strategy*

From a general viewpoint, the stakeholder engagement process can be considered in terms of pathways for companies to share with stakeholders the values, information and knowledge needed to build the preconditions required to develop a strong collaboration (Gray and Wood, 1991; Healey, 1997). To this end, as underlined in the previous section, companies that aim to attract stakeholders in an engagement process need to provide them with information on their actions and strategies (Perrini and Tencati, 2006; Cooper and Owen, 2007). The ways in which this information is provided to stakeholders can impact on the opportunities for alignment between companies and stakeholders (Cornelissen, 2014). Accordingly, companies should pay more attention to their communication strategies (Siano *et al.*, 2011; Argenti, 2012).

Communication can be considered in terms of the pathways that connect a sender with a receiver by using a defined pathway to transfer a specific message (Jablin and Putnam, 2000; Van Riel and Fombrun, 2007). The planning and the management of communication strategies require verification of whether there are elements liable to affect the transfer of the message negatively and to ensure that the message received by the receiver has the same meaning as that planned by the sender (Shannon, 1949).

Different studies have investigated the domain of communication, focusing attention on the structure of communication flows (Hinds and Kiesler, 1995), on the best instruments to transfer a specific message (Marschan-Piekkari *et al.*, 1999), and on the kinds of message to transfer (Fombrun, 2001).

Adopting the interpretative lens of stakeholder engagement, companies' communication strategies should be based on the prior identification of stakeholders that have a right to be informed, and of their needs (Gray, 2001). After this, companies should evaluate what kind of information they want to transfer and what kind of information they want to receive (Roberts, 1992). Accordingly, a useful contribution to a better understanding of what strategies companies can develop to transfer the right information in the best ways to their stakeholders is offered by studies on voluntary corporate disclosure (Healy and Palepu, 2001; Evangelista *et al.*, 2016). These studies outline how social disclosures can be strategically used to manage relationships with stakeholders by influencing the external demands originating from a range of different stakeholders (Ullmann, 1985) and to involve them in the companies' pathways (Carayannis *et al.*, 2014). They show that the more critical stakeholders are to the success of companies, the more likely it is the companies will satisfy their demand for information (Ullmann, 1985). Roberts (1992), building on the framework developed by

Ullmann (1985), reveals that stakeholder power, strategic positioning and economic performance are significantly related to levels of corporate social disclosure and that companies can use corporate social disclosure as a managerial instrument to engage stakeholders. In the same direction, Abdolmohammadi (2005) and Reid et al. (2005) show that there is a strong positive relationship between companies' communication strategies and their Market Cap.

Similarly, Lindblom (1984) asserts that corporate social disclosure may be viewed as the result of a public desire for information to evaluate if the activities carried out by companies are 'appropriate' or 'right and proper'. To this end, voluntary corporate social disclosure, as a direct approach to inform stakeholders about organisational activities, outputs and goals which are not generally readily observable (Neu *et al.*, 1998), can be considered a relevant pathway on which to base corporate communication strategies to develop a strong stakeholder engagement (Donaldson and Preston, 1995; Dervitsiotis, 2003).

Among the studies on voluntary corporate disclosure, the topic of the social report is garnering attention in managerial and organizational discussion (Bell, 1969; Van der Laan, 2009). Its usage by companies to transfer voluntary information to stakeholders is facilitating a debate on the opportunities and implications for stakeholder engagement and for the development of strong collaboration between companies and stakeholders (Heww, 2008). More specifically, companies' provision of social reports on their activities becomes a strategic driver in developing conditions for a better reciprocal understanding between companies and stakeholders (Mellahi and Wood, 2003) and it could impact on stakeholders' perception of companies and, consequently, on companies' market value (Healy and Palepu, 2001). Therefore, the paper states that:

**H<sub>3</sub>:** There is a positive relationship between companies' publishing of a social report and companies' Market Cap.

**H<sub>4</sub>:** There is a positive relationship between the number of years in which social reports have been published by companies and companies' Market Cap.

## METHODOLOGY

Our sample was selected from a dataset of Italian companies provided by Thomson Reuters Datastream ([financial.thomsonreuters.com](http://financial.thomsonreuters.com)). Among the 4,361,127 companies in Italy (ISTAT, 2016), a sample of 113 companies was extracted using a random sampling in order to maximize the opportunities for generalize the results of research to the entire population (Marshal, 1996). Information on the extracted companies was acquired using the database offered by Thomson Reuters Datastream for companies' Market Cap; companies' websites were consulted to verify if they had published social reports between 2004 and 2014; and Google was consulted searching the business

name of companies (in complete and short version) and the companies' Value Added Tax number to measure the numbers of websites in which there are information on companies.

The reliability of data was measured via Cronbach's alpha (Hinkin, 1995), discriminant validity was tested by comparing the square roots of the AVEs with the correlations between the constructs, and the hypotheses were tested via structural equation modelling (SEM).

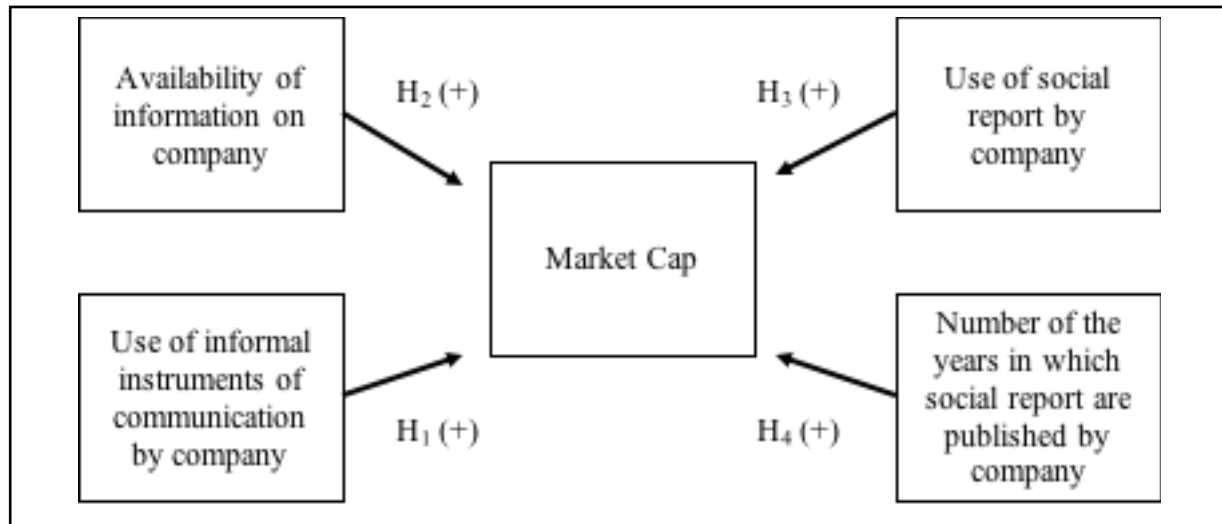


Figure 1: The conceptual model

To evaluate the fitting of model some indexes were measured such the chi-square-to-degrees-of-freedom ratio ( $\chi^2/df$ ), goodness of fit index (GFI), the adjusted goodness-of-fit index (AGFI), and the parsimony goodness-of-fit index (PGFI).

## FINDINGS

The following Table 2 reports Cronbach's alpha ( $\alpha$ ) coefficients and square roots of the AVEs for each construct.

Constructs	$\alpha$	(1)	(2)	(3)	(4)	(5)
Use of informal instruments of communication by company	0.73	1				
Availability of information on company	0.71	0.542*	1			
Publication of social report by company	0.78	0.373*	0.214*	1		
Number of years in which social reports were published by company	0.73	0.318*	0.203*	0.160*	1	
Market Cap.	0.89	0.276*	0.178*	0.104*	0.12	1

Note: \* Correlation is significant at the 0.01 level (two-tailed)

Table 1. Relationships among study constructs

According to Nunnally (1978), the reliability of data is achieved with a  $\alpha$  equal or greater than 0.7. Observing the results show in Table 1 it is possible affirm that the reliability for all the constructs is

achieved. Moreover, the discriminant validity is verified because the square roots of the AVEs were all greater than their respective relationships, providing solid evidence of discriminant validity.

The hypotheses were tested via SEM as shown in Table 2.

<i>Hypothesis</i>	<i>Standardized regression coefficient</i>	<i>P-value</i>
H <sub>1</sub> (+): Use of informal instruments of communication by company →Market Cap	0.634	0.005
H <sub>2</sub> (+): Availability of information on company →Market Cap	0.583	***
H <sub>3</sub> (+): Publication of social report by company →Market Cap	0.721	***
H <sub>4</sub> (+): Number of years in which social reports were published by company →Market Cap	0.634	0.02

*Note:* \*\*\* Standardized regression coefficient is significant at the 0.001 level (two-tailed)

Table 2. Results of SEM

All the hypothesis with a probability value (P-value) higher than 0.5 are considered confirmed.

The fitting of conceptual model is verified measuring some fitness index (Table 3).

Index	Value	Cut-off value
chi-square-to-degrees-of-freedom ratio ( $\chi^2/df$ ),	717.825	$\leq 3$ (Byrne, 2001)
goodness of fit index (GFI),	0.915	$> 0.90$ (Hoe, 2008)
the adjusted goodness-of-fit index (AGFI),	0.912	$> 0.90$ (Li <i>et al.</i> , 2007)
and the parsimony goodness-of-fit index (PGFI).	0.686	$> 0.50$ (Mulaik <i>et al.</i> , 1989)

Table 3. Fitness indexes

As show by the Table 2 and 3 the model is verified and all the hypothesis are confirmed.

## DISCUSSION

The empirical results confirm the validity of the proposed reflections. More specifically, from the results of empirical research it emerges that companies' market value, measured in terms of Market Cap, is influenced by the companies' attention to the adoption of extensive communication strategies. Accordingly, the results underline that a high degree attention from companies on the transfer of information to stakeholder impacts on their Market Cap.

More specifically, with reference to H<sub>1</sub>, the results of the research show that the use of informal instruments of communication is positively related to companies' Market Cap. This result is aligned with previous studies on the relevance of communication (Riel, 1995; Jo and Shim, 2005) and with empirical researches on the contributions that informal instruments of communication such as blogs, social networks and mailing lists, among others, can offer to the improvement of companies' image as perceived by stakeholders (Schmidt, 2007; Kietzmann *et al.*, 2011). Therefore, the evidence of the

research enriches previous managerial studies and proposes the need to use informal instruments of communication better as relevant key drivers in the definition of companies' strategies.

Considering H<sub>2</sub>, the empirical evidences show that the availability of information on companies is positively associated with companies' Market Cap. This evidence is also aligned with previous studies on the topic of communication (Morley *et al.*, 1997; Lodhia, 2006) and stakeholder engagement (Foster and Jonker, 2005; Greenwood, 2007). More specifically, this result underlines how an improvement in possible stakeholder engagement strategy requires that companies share with stakeholders an adequate amount of information (Perrini and Tencati, 2006; Succar, 2009). The transfer and the sharing of information, in fact, represents the first step to develop a pathway of alignment between companies and stakeholder and, consequently, a first step of the direct pathway to building a strong collaboration between companies and stakeholders (Donaldson and Preston, 1995; Bourne, 2012; Del Giudice *et al.*, 2012).

With reference to H<sub>3</sub>, the empirical evidence shows the positive relationship that exists between the publication of social reports and the companies' Market Cap. This result is aligned with the evidences proposed by previous studies on the topic of corporate social disclosure (Gray *et al.*, 1997) and on social reports (Schaltegger and Wagner, 2006). It underlines the relevance that voluntary information offered by companies to stakeholders can have in terms of its impact on companies' market value (Healy and Palepu, 2001). Accordingly, the social report could be considered a relevant instrument in the implementation of a stakeholder engagement strategy because it supports the transfer of information from companies to stakeholders and offers stakeholders tangible evidence of the will of companies to develop a transparent relationship with them (Dervitsiotis, 2003).

Finally, with reference to H<sub>4</sub>, the empirical evidences underline that there is a positive relationship between the number of years during which companies have published social reports and their market value in terms of Market Cap. This result highlights the relevance of companies' voluntary corporate disclosure from the perspective of stakeholders (Lev, 1992). It shows that if the companies' attention to transferring and sharing information with stakeholders over time is continuous, stakeholders tend to develop a more positive perception of the companies. They have the opportunity to identify more common elements on which to develop possible synergies, and they are more inclined to support companies in their market strategies with their resources and efforts (Post *et al.*, 2002; Hess, 2008).

## FINAL REMARKS AND FUTURE LINES OF RESEARCH

The challenging scenario in which social and economic organizations act every day requires the development of new models, instruments and approaches to better support decision makers in understanding the dynamics (Prahalad and Ramaswamy, 2004; Wright *et al.*, 2005). The new challenge

for any organization that aims to survive in the modern era is to better understand stakeholders' needs in order to improve strategies and better align behaviour with their perspective (Miles *et al.*, 2006; Barile *et al.*, 2014, 2015; Del Giudice *et al.*, 2016).

This emerging challenge requires companies to overcome the traditional boundaries of their activities and to open themselves to the possible new opportunities offered by collaboration, information sharing and their relationship with stakeholders (Freeman and Gilbert, 1987; Del Giudice and Maggioni, 2014). Therefore, the new aim for proactive companies that want to improve their competitiveness and their market position is to develop an effective, efficient and suitable stakeholder engagement strategy (Head, 2007; Hartzler *et al.*, 2013).

To this end, the paper builds on the hypothesis that to develop a stakeholder engagement strategy it occurs before to improve some preliminary conditions related to the capabilities of companies to offer right information in the correct way to stakeholders. Accordingly, building on the contributions offered by the literature on the topic of information sharing and communication strategy, this paper investigates possible key variables that impact on the relationships between companies and stakeholders.

With the aim to define possible guidelines for the implementation of pre-conditions required for an effective collaborative strategy between companies and stakeholders, the paper investigates the impact that information sharing and transfer in different configurations have on companies' market value.

Through empirical evidences there emerges a positive relationship among the identified variables and the Market Cap of the analysed companies. This evidence shows that stakeholder's perception on the attention on companies' attention to transfer and share information with them impact on their economic behaviours and chooses and, consequently, on the companies' economic performances. As a consequence of information received by companies, stakeholders have the opportunities to evaluate whether a company is aligned with their perspective of life and, eventually, to support it by buying their products/services and/or offering information, suggestions and evaluation. Only after these steps will companies have the opportunity to develop an affordable stakeholder engagement strategy.

The reflections and empirical evidences herein offer some contributions from both a theoretical and a practical point of view. In fact, from the first perspective, they underline the need for:

- In-depth analysis of elements and variables that affect the will of stakeholders to improve their collaboration with companies.
- The development of models able better to link stakeholders' behaviours and decisions to companies' competitiveness and position.



- Widening of the perspective in the studies on stakeholder engagement to overcome the simple phase of interaction between companies and stakeholders.

From a practical viewpoint, it is underlined that:

- Companies that want to develop stakeholder engagement strategies need to offer more information to the market on their activities, strategies and aims.
- Stakeholder engagement strategies are not limited to the interaction between companies and stakeholders, but refer rather to the perception that the market and social context have of the company.
- If companies aim to acquire affordable information on stakeholders, they need to preventively create conditions of reciprocal understanding, offering information on their activities, strategies and aims.

In summary, the paper traces first reflections on the need to widen the perspective of study and reflection in the domain of stakeholder engagement to identify more affordable, effective and efficient strategic pathways in creating pre-conditions for a collaborative relationship between companies and stakeholders. Therefore, the reflections and empirical evidences herein cannot be considered exhaustive, but they are a first step on a long pathway of research aimed at identifying possible relationships between companies' attention to information sharing and their implications in the light of stakeholder engagement. The final aim is to develop a toolkit able to support decision makers in evaluating the better behaviours to improve collaboration and relationships with their stakeholders.

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## BEYOND THE DIGITAL ECOSYSTEMS VIEW: INSIGHTS FROM SMART COMMUNITIES

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### ABSTRACT

**Aim:** The paper aims to analyse the challenges of emerging Digital Ecosystems. The principal goal of this work is to enrich previous studies on the topic of Digital Ecosystem with possible contributions derived from the studies on Smart Communities.

**Findings:** The reflections herein support the overcoming of traditional managerial perspective no more longer able to support decision makers in defining effective and sustainable managerial models. The adopted lens build on the interpretative contributions offered by studies on Digital Ecosystems and on Smart Communities in attempt to define a possible multi- and trans-disciplinary framework for the management of networked systems in the light of value co-creation perspective. The main finding is the identification of possible advancements in the management of Digital Ecosystems using the evidence offered by the evolution of Smart Communities.

**Methodology:** The work proposes an analysis of the domain of Smart Communities with the aim to identify possible advancements in the ways to face the challenges of Digital Ecosystems in the emerging knowledge and digital society. The proposed ideas support the emergence of a stronger conceptual framework direct to enrich previous contributions both in the domain of Digital Ecosystems and Smart Communities.

**Research implications/limitations:** Reflections, ideas and observations herein represent a first step along the pathways to define a more holistic approach in the management of networked systems. In this directions, the proposed suggestions should be verified through a wider empirical study.

**Originality/Value:** The paper offers a multidisciplinary approach useful to support decision makers in better understanding the opportunities offered by Digital Ecosystems thanks to the interpretative lens offered by Smart Communities logic.

**Keywords:** *Digital Ecosystems; Smart Communities; Information and Communication Technology; Value co-creation.*

## INTRODUCTION

In the last decades, evolutions and advancements in the knowledge with reference to more different topics have been achieved adopting a reductionist approach direct to split up each problem in its elementary parts. According to Popper (1972), this approach is based on the three R: reduction, repeatability, and refutation.

The contributions of the logic and of the principles on which reductionist approach is based are evident if we analyse the advancements in knowledge of 'strong sciences' (Sachse, 2007) achieved in the last century (Van Regenmortel, 2004). Building on the success of 'strong sciences' more researchers have tried to apply the reductionist approach also in the social sciences (Sayer, 2010), but the results have not been more 'exciting' (Garfinkel, 1984).

According to Lewin (1951), social sciences can be considered a complex of multidimensional phenomenon strictly correlated and really hard to understand if not related to the context in which they act.

The peculiarities of social sciences require to adopt an interpretative approach focused on the way in which different phenomena interact and not only on their structure (Nisbett et al., 2001). In other terms, they require to apply a holistic approach (Barile et al., 2013; Saviano et al., 2016).

Building on this reflection, the research fields on System and Service thinking have proposed to adopt multi- and trans-disciplinary conceptual frameworks direct to underline in which way different phenomena interact and how these interactions influence functioning and evolution of the context (Barile and Polese, 2010; Badinelli et al., 2012; Golinelli et al., 2012; Barile et al., 2015; Di Nauta et al., 2015).

More researchers have underlined the relevance and the opportunities related to apply a holistic approach in social sciences (Kincaid and Kincaid, 1996). With reference to managerial studies, some of these researchers have focused the attention on specific topics such as knowledge (Mentzas et al., 2001), strategy (Feurer and Chaharbaghi, 1994), consumer behaviour (Oh, 1999), market evolution (Fletcher, 2001) and others (Giddings et al., 2002).

One of the research stream that appear to be more aligned with the aim to improve multi- and trans-disciplinary approach is related to the topic of Ecosystems (Wieland et al., 2012).

According to Vargo and Lusch (2011, p. 12), ecosystems can be considered "relatively self-contained, self-adjusting systems of resource-integrating actors connected by shared institutional logics and mutual value creation through service exchange".

The concept of ecosystem is not new, but it has a long history in the field of ecology and environmental studies (Chapin III et al., 2011). According to Kaufmann et al. (1994), it was adopted by managerial studies because to face the challenges of a vibrant context "it is time to embrace the



concept of managing ecosystems to sustain both their diversity and productivity and to chart a course for making this concept the foundation for sound multiple-use and sustained yield management” (p. 1).

The research field on ecosystems seems to be strictly founded on a multi- and trans-disciplinary approach because it offers a clear description of the way in which different actors (resource integrator) interact to achieve specific aims (Akaka et al., 2012).

Building on the topic of ecosystem, a more recent debate seems to offer useful advancements in understanding in which ways different actors are related. From this debate the research stream on Digital Ecosystems has emerged (Dini et al., 2008; Briscoe, 2010).

According to Boley and Chang (2007), Digital Ecosystems could be considered peer to peer structures of support for a networked architecture and collaborative environment. More specifically, Digital Ecosystems offer a useful conceptual framework to better understand in which ways actors interact and exchange resources (Briscoe and De Wilde, 2006). Despite this, the general studies on Digital Ecosystems seems to focus the attention only on the definition of a possible best structure for a networked environment (Dong et al., 2011; Del Giudice et al., 2016). In such a vein, a relevant gap appears to exist with reference to the ways in which networked environments evolve along the time and with reference to the dimensions, dynamics, and variables that affect their emergence.

To bridge this gap, the paper proposes an analysis of the studies on Smart Communities as ways to identify possible advancements in the approach to Digital Ecosystems and to the use of Information and Communication Technologies (ICT) in supporting the emersion of a wider Ecosystem view. The mainly idea is that the Smart Communities represent an advanced example of networked environments. The peculiarity of Smart Communities is that the interactions among actors, infrastructure, and resources have supported the overcoming of a perspective based only on the structural dimensions in order to embrace a wider vision about the dynamics that affect the emergence and the evolution along the time of interconnected entities. Building on this reflections, the paper proposes to investigate the previous literature on the topic of Smart Communities and Digital Ecosystems in order to enrich existent knowledge with a possible interpretative scheme able to support the understanding and management of every kind of networked environment based on the use of Digital infrastructure. In this direction, reflections herein aim to offer a possible answer to the following Research Questions:

*In which ways it is possible to improve the management of Digital Ecosystems adopting the logics of Smart Communities?*

*What are the real contributions of ICT in the emersion and in the functioning of Digital Ecosystems?*

The rest of paper is structured as follow: in Section 2 an analysis of conceptual and theoretical background related to the topics of Smart Communities and Information and Communication Technology is proposed. In Section 3, a smartness view of Digital Ecosystem is presented. Finally, in Section 4 some conclusions and possible future lines of research are traced.

## CONCEPTUAL AND THEORETICAL BACKGROUND

### *Smart Communities logic*

According to Krebs and Holley (2006), each community is founded on the connections among its elements, then, better connections offer better opportunities in the function of communities.

This reflection represents a useful starting point to explain the increasing attention on the topic of Smart Communities as networked configuration in which (co)live different social aims and in which both human and physical resources interact at different levels to achieve their aims in more suitable, efficient and effective ways (Xia and Ma, 2011).

Along the time, different researches have analysed the topic of smart communities focusing the attention on the role of human resources (Berry and Glaeser, 2005), on the relevance of the infrastructure (Caragliu et al., 2011), and on the ways in which processes and roles are organised (Schaffers et al., 2011).

Among the different studies interested in the topic of Smart Communities, the contributions on Information and Communication Technology (ICT) are acquiring an increasing attention (Unette Sealy, 2003). These contributions underline how ICT have a prominent role in assuring the success and the function of smart communities because it supports every type of interaction and of information sharing (Wolfram, 2012; Evangelista et al., 2016).

According to these studies, Smart Communities represent a new way to see social configurations and they offer the opportunities to identify solutions to a variety of social problems such as energy, education, healthcare, transportation, traffic, and others (Angiello et al., 2014).

The relevant advancement in knowledge offered by the studies on Smart Communities is related to the way in which different 'drivers' such as physical resources, human resources, ICT, infrastructure, and others are related (Deakin, 2013). Adopting the Smart Communities logic, it is not possible to identify clear boundaries among the different drivers and they cannot be hierarchically organised (Botkin, 1999; Caputo et al., 2016). This contribution appears really relevant in the studies of Digital Ecosystem because it shows a possible pathway to overcome the limitation of Digital Ecosystem view referred to the existence of a clear and defined interaction structure among all the involved actors (Ferronato, 2007).

From this point of view, the paper states that Smart Communities logic can offer a useful contribution in advancement of managerial models in the field of Digital Ecosystems. It can help decision makers to better understanding roles and contributions that a networked architecture can offer to a better satisfaction of stakeholders' needs (Saviano and Caputo, 2013). It represents a tangible contribution to overcome the limitations of a vision focused only on the definition of best pathways to connect human and physical resources (Saviano et al., 2013). Finally, it can offer a supportive interpretative lens to underline that the real aims of Digital Ecosystems should not be to build the best infrastructure but rather to identify the better solutions to improve the quality of our everyday life (Noveck, 2009).

In accordance with this, as better explained in the next section, digital infrastructure cannot be considered simply as an instrument to support the connection among different entities but it should be considered a relevant pillar in analysing, understanding, and managing all the variables that are involved in the processes to satisfy stakeholders' needs (Baliamoune, 2002).

#### *Information and Communication Technology*

At the end of an interesting article published in 2008 Chen and Vargo proposed a stimulating call for future research on open and adaptive systems. The call aims to attract more interest in understanding the role of Information and Communication Technologies in supporting an evolution in the ways to approach collaboration, co-creation, and information sharing in the management of service systems.

After about one decade, more contributions have been written to offer a response to this call (Olson et al., 2008; Lee et al., 2012) but many questions about the contribution of ICT to the creation of a more collaborative and co-creative oriented environment are still unresolved (Power et al., 2015).

In the managerial literature it appears to persist a strong approach to ICTs as a set of instruments on which to act in order to improve an ex-ante defined strategy direct to improve collaboration and inclusion of stakeholders in a planned multi-dimensional system (Olesen and Myers, 1999). Despite this, more evidences are underlining a possible different role of Information and Communication Technologies in the emersion of interactive systems (Roberts, 2000).

After the diffusion of Internet, an increasing number of examples of 'structure of interaction' have emerged as effect of the will of stakeholders to acquire and exchange information (Danese, 2006). If we think to the most popular social networks such as Facebook, Twitter, Instagram and others, it is simple to note how Information and Communication Technologies cannot be considered only simple instruments to support a vision oriented to interaction (Morrison, 2002). A new world is emerging in which ICTs are the source for a new vision on the future evolutions in the way to approach stakeholders' interactions (Davenport, 2013).

Building on the reflections proposed in the previous section, ICT represents a new relevant key driver in the management of networked systems because it offers to decision makers the opportunity to

better understand information and knowledge of different involved actors (Hendriks, 1999, 2001; Huysman and De Wit, 2004; Del Giudice et al., 2013; Del Giudice and Maggioni, 2014). At same time, recent evolutions in ICTs is opening to a new view of the ways in which actors can interact and build non formal networked systems (Ritchie and Brindley, 2005). In this direction, the potential contributions of ICTs in supporting a more holist understanding on the ways in which different actors decide to interact and on the strong beliefs that influence their decisions and actions requires to be investigated (Duan et al., 2002). According to this, the paper states that a wider view of ICTs is required and a better definition of smartness occurs to overcome the limitations of traditional useless interpretative lens (Österle, 2013).

## **TOWARD A SMARTNESS VIEW OF DIGITAL ECOSYSTEM**

In the last few years, the studies on Digital Ecosystems have offered some relevant advancements in knowledge on the ways in which different actors interact along the time, on the rules required to assure the stability of relationships, and on the models useful to combine diversity and stability (Corallo et al., 2007).

These studies have underlined the need to focus the attention on the logics of aggregation among the actors and on their evolution along the time (Ferronato, 2007). They have explained in which ways actors interact along the time and what happens when one or more actors decide to change its or their relationships (Bharadwaj et al., 2013).

The focus of the studies on Digital Ecosystems is strictly related to create possible useful representations of the structure of networked environments (Peltoniemi and Vuori, 2004). Reflecting on this, a relevant gap emerges in the traditional approaches. More specifically, it is not clear in which ways information on the structure can be useful to manage a networked enviroment if its causes are unknown (Barile et al., 2015).

As showed by the increasing inefficiency of traditional predictive models (Farmer and Richman, 1964), to know the actual structure of a system and its evolutionary history could not be useful to understand its future evolution (Gold et al., 2001).

Models, instruments, and tools direct to investigate the structure of a system are useful in the case in which it is need to solve a specific problem but they are useless if it is need to take a decision on the evolution of system (Orser et al., 2000). In this latter case, more information on different variables such as strong beliefs of involved actors, influences of external agent, relevance of previous experience, perceptions and levels of membership, and others are requested (Jackson and Artola, 1997; Hamel, 2006).

Building on this, the paper aims at underlying how Digital Ecosystems represent a useful starting point in the definition of wider models to study and to understand market and social dynamics but they should embrace other dimensions to be useful in supporting a better understanding and satisfaction of stakeholders (Barile et al., 2014; Gambarov et al., 2015).

According to Briscoe (2010), the paper states that Digital Ecosystems offer a useful perspective to better investigate social and economic ecosystems and that they exist a common interpretative scheme that explain Digital, Economic and Social Ecosystems (Figure 1).

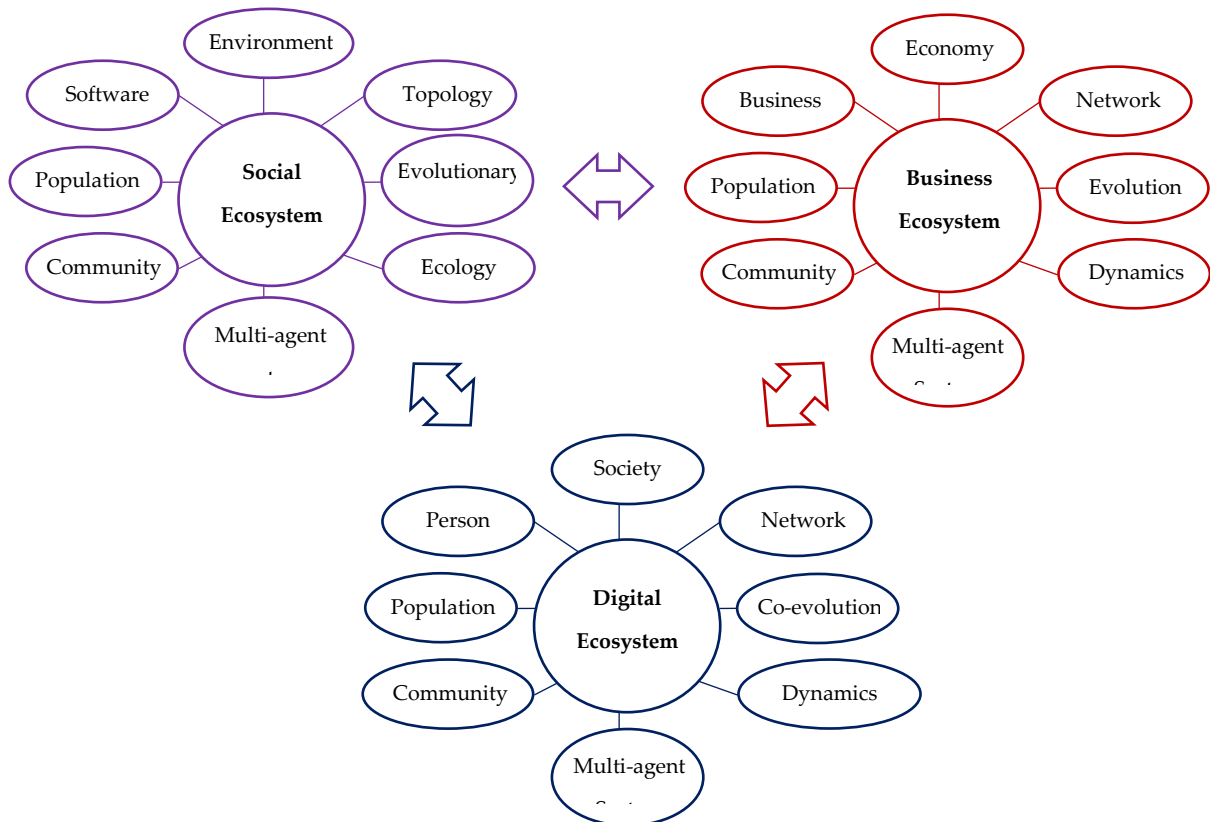


Figure 1. A common representation for Social, Digital, and Business ecosystem

(Source: Elaboration from Briscoe, 2010: 41-42)

This common representation underlines the existence of a shared conceptual structure among the different 'approaches' to ecosystems. It shows how, along the time, different perspective, starting from different points of view, have focused on the same elements.

It can be considered a relevant starting point to define what are the elements on which to focus the attention and it can support decision makers in defining more efficient, effective, and sustainable managerial models offering them a useful representation of the level involved in the ecosystem configurations (Table 1).

Social Ecosystem	Digital Ecosystem	Business Ecosystem	Level
Environment	Society	Economy	External level
Software Agent	Person	Business	Focus of observation
Population	Population	Population	Type of actors involved
Community	Community	Community	Systems of actors
Multi-agent System	Multi-agent System	Multi-agent System	Logic of interaction
Ecology	Dynamics	Dynamics	Perspective of interaction
Evolutionary Computing	Co-evolution	Evolution	Interpretative lens
Topology	Network	Network	Approach

Table 1. A comparison among Social, Digital, and Business ecosystem (Source: Elaboration from Briscoe, 2010)

Despite this, all these contributions cannot be considered exhaustive. To understand in which way ecosystems evolve it is need to investigate the elements that influence actors' decisions and actions. In this direction, some useful indications could be offered by the studies on Smart Communities as social configurations that acting on the collaboration and on the information sharing among citizens, organizations, and governing aim to improve social, economic and well-being conditions of all actors (Eger, 1997).

Albeit based on the use of Digital structures, Smart Communities go beyond the simple logic of interconnection. Their real contribution to face social and economic challenges lies in the capacity to support and to stimulate social learning and interaction creating the condition for an efficiency, effectiveness, and suitable use of collective intelligence (Vermesan and Friess, 2013; Caputo et al., 2016).

The opportunities that Smart Communities can offer, if correctly combined with the Digital Ecosystem view, are unimaginable.

## CONCLUSION AND FUTURE LINES OF RESEARCH

The paper underlines the opportunities offered by Digital Ecosystem view and it traces some possible reflections about the opportunity to develop a common interpretative scheme in order to better understand the logics and dimensions of the Ecosystem view. In such a vein, it proposes to combine the studies on Digital Ecosystems with the logic on which are based the Smart Communities in order to define a possible wider interpretative scheme to support understanding and managing of networked environments. As finding, reflections herein underline that:

- By adopting the Smart Communities logic, it is possible to overcome the reductionism on which Digital Ecosystems view is based (Coe et al., 2001). According to this, Smart Communities logic

shows how it is possible to assure the full functioning of a networked system also without defining strong boundaries and rules (Enkel et al., 2009).

- Information and Communication Technologies cannot be considered only as an instruments to support the management and the functioning of Digital Ecosystems but they can also create the better environment to support an autonomous interaction among different resources and actors able to define rules and principles of the emerging networked systems (Davenport, 2013).

Building on this, the mainly purpose of paper is to attract more social, physiological, and economic researchers in the attempt to better apply logics and principals of Digital Ecosystems in the understanding and management of social configurations. In such a vein, a wider study on the interpretative schemes that influence dynamics of Digital Ecosystem should be developed in order to better understand opportunities and limits related to the 'coevolution' of digital and social dimensions (Couclelis, 2004).

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## A FOCUS ON COMPANY-STAKEHOLDER RELATIONSHIPS IN THE LIGHT OF THE STAKEHOLDER ENGAGEMENT FRAMEWORK

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### ABSTRACT

This paper aims to investigate company-stakeholder relationships from a managerial and marketing perspective. The principal goal of the work is to identify possible drivers on which to act to improve opportunities for long-term and collaborative relationships between companies and stakeholders.

Building on the contributions on the topic of relationships between companies and stakeholders, the paper proposes an explorative research study carried out to suggest how strategies and behaviours of a sample of Italian Small and Medium Enterprises (SMEs) are aligned with the global stakeholder engagement framework.

Hypotheses are tested via a survey on a sample of Italian SMEs. Data are analysed using Structural Equation Modelling (SEM) in order to identify possible relationships between companies' Market Share (MS) and their capabilities in understanding stakeholder's strong beliefs; the alignment of organisational models of companies and stakeholders; their attention to involve stakeholders in their plans and strategies; their availability to give information on their plans and strategies to stakeholders; the transparency of their communication; and the level of communication between companies and stakeholders. The results are discussed from a theoretical and practical point of view.

**Keywords:** *Stakeholder engagement; Corporate communication; Italian SMEs; Structural Equation Modelling*

### INTRODUCTION

Over the last century, the economic history of our world has been influenced by the increasing competitiveness of companies, organisations, and every type of social and economic actor (Reiner, 2009). The principal goal was to acquire more (tangible and intangible) resources in order to improve individual competitive advantages (Hunt and Morgan, 1995; Hooley et al., 1998). Strategies, actions, and behaviours were influenced by the will of actors to operate alone with the aim of maximising the

advantages derived from the use of their resources, competences, and knowledge (Vervest et al., 2005; Saviano et al., 2016).

By again, during the last twenty years some changes in social and economic configurations, such as globalisation, improvements in Information and Communication Technology (ICT) and the evolution of consumers' behaviours, have profoundly affected market and social balances (Tamásy and Taylor, 2008).

New challenges are emerging, and competencies, capabilities, resources, and knowledge of economic and social actors appear to be unable to assure the survival of social and economic organisations (Gibbert et al., 2002; Payne and Frow, 2005; Saviano and Caputo, 2013).

The increasing complexity of context and stakeholders' needs requires a radical change in the managerial and governmental approaches of companies (Starkey and Madan, 2001). Companies cannot face the market requests working alone and the new challenge of collaboration is becoming an imperative (Vargo et al., 2008).

Building on these reflections, different researchers have tried to analyse the ways in which it is possible to improve the competitiveness of companies developing collaborative strategies (Payne et al., 2008). Some of them have focused the attention on the partnerships (Lamming, 1993), on marketing strategies (Grönroos, 1994), and on the use of ICT (Leu et al., 2004) as ways of supporting companies in acquiring relevant resources for their survival.

All these contributions have offered relevant advances in knowledge about the ways to support the development of a collaborative strategy (Cummings and Worley, 2014), on the opportunities that collaboration can offer to the different involved actors (Hansen and Nohria, 2004), and on the role of strategies in assuring the emersion of long-term relationships (Cousins, 2002). However, these contributions appear to be focused almost exclusively on a 'transactional logic' in which each actor decides to interact with others only to achieve personal aims and to improve personal power (Kanter, 2011). The real implementation of sharing strategies, based on a win-win logic and on the value co-creation, appears to remain only a conceptual framework that does not really inform the companies' actions (Grönroos and Ravald, 2011).

To bridge this gap, this paper proposes to investigate possible pathways to improve the quality and quantity of relationships between companies and stakeholders, acting on a more structured engagement. It aims to analyse in which ways more attention upon the involvement of stakeholders, and on the communication with stakeholders can impact on the companies' Market Share (MS).

A survey on some stakeholders of a sample of Italian Small and Medium Enterprises (SMEs) is proposed. SMEs were performed to identify relationships between companies' MS and their capabilities to understand stakeholders' strong beliefs; the alignment of organisational models of

company and stakeholders; the companies' attention to involving stakeholders in their plans and strategies; their availability to give information on their plans and strategies to stakeholders; the transparency of their communication; and the level of communication between company and stakeholders.

The rest of paper is structured as follows: Section 'conceptual framework' provides a brief description of the conceptual framework on which reflections herein are based and it states the hypotheses on which the research is built. In Section 'method', the methodology is described. Section 'results' comprises a discussion of the empirical results. In Section 'discussion', the implications of the research are discussed, both from a theoretical and from a practical point of view. Finally, in Section 'final remarks and future directions for research' some conclusions and suggestions for future lines of research are proposed.

## CONCEPTUAL FRAMEWORK

### *Premises for stakeholder engagement*

Recent evolutions in economic and social configurations are requiring to decision makers to develop new approaches, models and instruments to better understand market dynamics and needs (Araújo and Gava, 2012). Traditional managerial models and instruments are showing a decreasing capability to support decision makers in defining strategies and behaviours aligned with stakeholders' expectations (Bueren et al., 2005). As consequence of this, the survival of many organisations is today uncertain (Burke, 2013).

According to Golinelli et al. (2012), the emerging challenges imposed by economic configuration require to company to adopt a radical change in perspective, shifting from an individualistic to a collective logic. In accordance with this reflection, some authors have tried to define possible pathways to develop collective managerial models in which the boundaries of companies dissolve and new occasions of interaction and information sharing within the context emerge (West et al., 2014). Regarding these pathways, some relevant contributions are offered by the research stream on Stakeholder Engagement (Muff, 2014), especially with reference to the role of stakeholders in companies' survival (Devinney et al., 2013). These contributions offer relevant opportunities to overcome the logic of Corporate Social Responsibility underling that companies must work respecting the interest of legitimate stakeholders (Aguinis and Glavas, 2012), and stressing that companies should positively involve stakeholders in their activities (Greenwood, 2007).

Building on the conceptual framework offered by Stakeholder Theory (Freeman, 1983), Stakeholder Engagement tries to analyse how it is possible to support collaboration among companies and stakeholders when the claims of stakeholders are not fully specified (Klein et al., 2013). According to

Brown and Forster (2013), to achieve efficient, effective, and suitable collaboration between companies and stakeholders it is necessary to identify and understand the aims of stakeholders, and the types of purpose that can be considered legitimate and aligned with the company's perspectives. Hence, the capability of companies to improve the quality of stakeholder engagement requires investigation and deep understanding of the cognitive dimensions and strong beliefs that influence stakeholders' behaviours and actions. Therefore, this paper states that:

**H<sub>1</sub>:** There is a positive relationship between the companies feeling in understanding stakeholders' strong beliefs and their MS.

Furthermore, the debate on stakeholder engagement has raised some interesting points, not only with reference to the aims of understanding stakeholders' needs and perceptions but also with reference to the stakeholders' perceptions of strategies adopted by companies to satisfy their needs (Hill et al., 2014). The aim of engaging stakeholders in the strategies and decisions of companies is becoming progressively more complex because the process of understanding and satisfying of stakeholders' requirements needs to be followed in an acceptable way to for stakeholders (Carroll and Buchholtz, 2014). Consequently, according to Herrera (2015), stakeholder engagement requires actions, not only with reference to stakeholders' needs and perceptions, but also with reference to operational structures and processes in terms of alignment among both companies' and stakeholders' organisational models. Therefore, the paper states that:

**H<sub>2</sub>:** There is a positive relationship between the alignment of companies and stakeholders organisational models and the companies' MS.

Contributions on stakeholder engagement also underline the need to shift from a transactional to a collaborative perspective in the ways in which companies approach the market (Vos and Achterkamp, 2015). More attention has been paid on the role that stakeholders may have in companies' strategies and plans (Rothaermel, 2015). Furthermore, stakeholders cannot be considered as simple external actors that influence companies' decisions. Stakeholders may have an active role in defining companies' strategies and plans, acting as filters in understanding the market and in guiding companies towards a deeper alignment with context perceptions (Brandon and Fukunaga, 2013). Therefore, the paper states that:

**H<sub>3</sub>:** There is a positive relationship between the companies involvement and their MS.

As shown by studies of the evolution of stakeholders' power, the contribution of stakeholders in defining efficiency, effectiveness, and suitable company strategies is becoming one of the more relevant competitive drivers for organisations that aim to survive (Bundy et al., 2013). Stakeholders can no more be considered as external actors, and companies cannot avoid to understand their needs and their perceptions if they want to survive (Fernandez-Feijoo et al., 2014). In this regard, the real

challenge is to understand the ways in which it is possible to support the emergence of a strong stakeholder engagement (Dawkins, 2014). To transform conceptual contributions in practical advancements, it is necessary to develop shared pathways to support reciprocal understanding and progressive alignment between companies and stakeholders (Barile et al., 2014; 2015).

This desired alignment needs to overcome the limitation imposed by the conditions of information asymmetry in terms of non-possibility of having full and clear information on the other actors involved in the relationships (Tashman and Raelin, 2013). A possible pathway to achieve this aim can be developed acting on communication as a strategic driver useful in supporting reciprocal understanding and in creating conditions for a long-term relationship (Cornelissen, 2014).

#### *The contribution of communication to stakeholder engagement*

According to Shannon (1949), every type of communication system is composed by an information source, a transmitter, a channel, a receiver and a destination. This simple representation explains how two or more actors exchange information (Garvey, 2014). In the last few years, the topic of communication has been extensively debated from different points of view. Its contents and management have attracted the interest of sociological, psychological, and managerial researchers (Jackson, 2012). The increasing attention on the topic of communication is motivated by the increasing demands of stakeholders for information on organisations' behaviours, strategies and plans (Siano et al., 2013). The problem of information asymmetry is acquiring a new relevance in a knowledge-based society in which each actor understands that the real power in a relationship is related to the information owned (Slabbert and Barker, 2014).

According to Carroll (2015), the emerging market configuration is influenced by requests for information about companies' strategies and plans. Stakeholders want more information on companies to better evaluate if they are aligned with their aims (Scandellius and Cohen, 2016). Consequently, the capability of companies to offer information on their strategies and plans is acquiring an increasing relevance with reference to the emergence of possible opportunities of collaborate between companies and stakeholders (Thorson and Moore, 2013; Evangelista et al., 2016). Therefore, the paper states that:

**H4:** There is a positive relationship between the level of communication and the companies' MS.

More specifically, stakeholder's requests for information on companies' actions and plans are not limited to the quantity of data available but they also include the quality and affordability of information shared (Locker and Kaczmarek, 2013). According to Cornelissen (2014), stakeholders are insisted in transparent information flow from the companies. Transparency, in terms of ease of reading and understanding of information provided by companies, is becoming increasingly relevant in influencing stakeholders' evaluations of companies (Gustafsson et al., 2012). In accordance with

this, a high level of transparency in the companies' communications offers to stakeholders a clear vision of the will of the companies to collaborate with them and to open their boundaries to stakeholders' contributions (Holtzhausen and Zerfass, 2014). Therefore, the paper states that:

**H<sub>5</sub>:** There is a positive relationship between the transparency of communication and the companies' MS.

The quality and quantity of information offered by companies to its stakeholders are not the only variables that influence stakeholders' perceptions on the will of companies to collaborate with them (Hollensen, 2015). The impact of communication flows on stakeholders' perceptions is also influenced by the level of communication, in terms of the number of interactions that companies have with their stakeholders to transfer updated information on their actions and decisions (Barile et al., 2013). According to Di Nauta et al. (2015), if there are many communication flows between company and stakeholders it is easier for the stakeholder to develop an in-depth knowledge of the company, and there will be many opportunities for the stakeholders to identify possible actions or pathways by which to offer a contribution to companies. Therefore, the paper states that:

**H<sub>6</sub>:** There is a positive relationship between the information sharing and the companies' MS.

## METHOD

The research is based on a questionnaire survey. The questionnaire was developed on the base of the literature review on the topic of stakeholder engagement and company communication. Questions were scaled using a five-point Likert scale in which 1 means 'strongly disagree' and 5 means 'strongly agree'. Three questions were used to measure each construct. The order of the questions was randomised to avoid any order bias.

The proposed structural model (see Figure 1) consists of six exogenous and one endogenous variables. Exogenous variables (see Table 1) were measured using questions derived from the literature on the topic of stakeholder engagement and company communication while the endogenous variable is the companies' MS and it is defined using the AIDA database (aida.bvdinfo.com).

Dimension	Description
<i>Company's feeling</i>	This is related to the capabilities of companies to understand the perspectives and mental models of the stakeholders.
<i>Alignment of organisational models</i>	This refers to the stakeholders' perceptions of similarities between the organisation of companies and their organisations, and is related to the ways in which actions and plans are implemented and realised.
<i>Company involvement</i>	This is related to the stakeholders' perceptions of companies' engagement in developing actions and behaviours to involve them directly, and to develop



	strong collaboration between companies and stakeholders.
<i>Level of communication</i>	This is related to the existing communication flow between companies and stakeholders. It refers both to the quantitative aspect (number of interactions) as well as to the qualitative aspect (relevance of exchanged information).
<i>Transparency of communication</i>	This refers to the stakeholders' perceptions of transparency in companies' communications, and depends on the perspectives of stakeholders about affordability, completeness, and correctness of companies' communication.
<i>Information sharing</i>	This measures the availability of companies to give information on their strategies and actions.

Table 1. Exogenous variables (Source: Authors' elaboration)

For the exogenous variable the following items have been used to measure the constructs:

*Company's feeling (CF)*

- CF<sub>1</sub>. The company's actions and strategies are aligned with my strong beliefs
- CF<sub>2</sub>. The mission and vision of the company can be considered as aligned with mine
- CF<sub>3</sub>. The company's behaviours and strategies are coherent with my aims for the next years

*Alignment of organisational models (AO)*

- AO<sub>1</sub>. The company's organisational models are aligned with mine
- AO<sub>2</sub>. The company's structure is similar to mine
- AO<sub>3</sub>. The company's approach to planning activities is similar to mine

*Company involvement (CI)*

- CI<sub>1</sub>. The company involves me and my firm/organisation in planning common strategies and actions
- CI<sub>2</sub>. There are many occasions of collaboration
- CI<sub>3</sub>. We are working on a common project

*Level of communication (LC)*

- LC<sub>1</sub>. The company gives all information requested about its strategies and plans
- LC<sub>2</sub>. Information on the company's strategies and plans is easily available
- LC<sub>3</sub>. The company gives to the market updated and correct information on its actions

*Transparency of communication (TC)*

- TC<sub>1</sub>. The company's communication is clear
- TC<sub>2</sub>. The company's communication includes all the information that I need to evaluate its actions
- TC<sub>3</sub>. The company's communication is based on the use of clear instruments and pathways

*Information sharing (IS)*

- IS<sub>1</sub>. There is intensive communication with the company
- IS<sub>2</sub>. The company gives information for each new action and decision

IS3. There are no misunderstandings about the information that I receive from the company

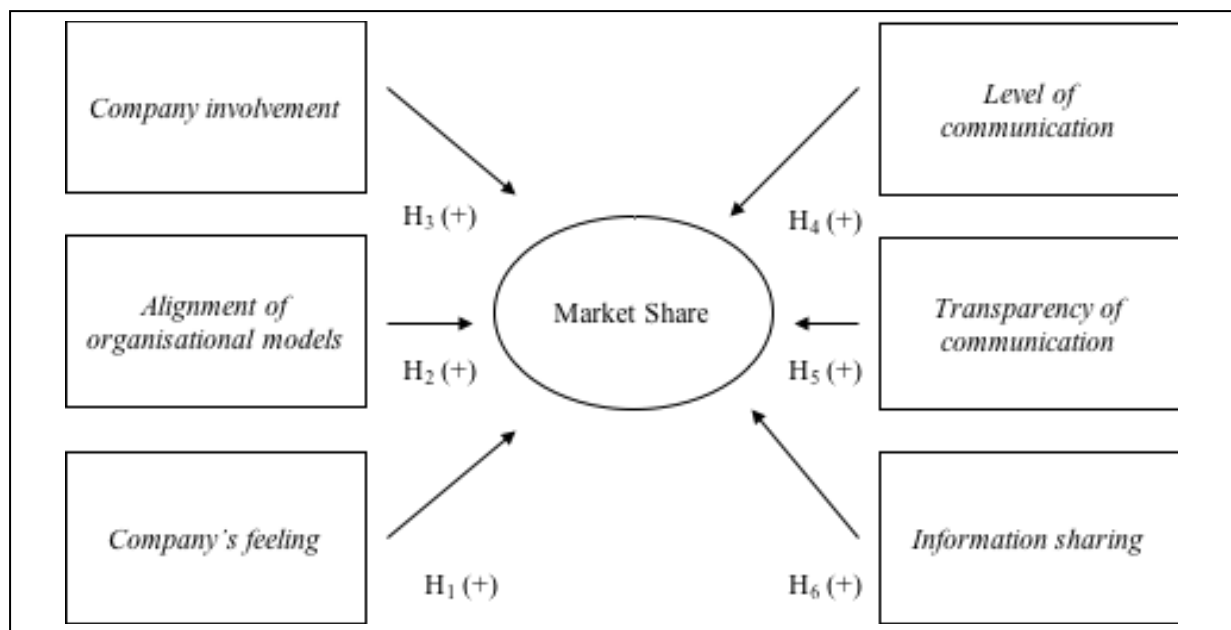


Figure 1. The Hypothesized Conceptual Model

#### *Sample*

The research is conducted with reference to Italian SMEs located in the Campania Region (Italy) because in the last few years these companies have paid an increasing attention in communicating their actions and plans to stakeholders in order to better involve them (Banca d'Italia, 2015).

According to the ISTAT (2011), in Campania Region there are 35.274 SMEs. Among the SMEs that are located in the Campania Region, a sample of 37 companies from different sectors was selected in order to enable an exploratory analysis.

#### *Data collection*

A survey was carried out to investigate the perceptions and opinions of a group of stakeholders of 37 Italian SMEs located in the Campania Region (Italy). The questionnaires were submitted directly (with the co-operation of the human resources departments of the companies included in the sample) to a group of stakeholders of the identified companies, such as suppliers, employees, clients, and public institutions, among others.

The principal aim of the survey was to acquire as much information as possible on stakeholder's opinions and perspectives, therefore, stakeholders were not preventively selected. In the month of April (2016), 747 questionnaires were submitted and 432 completed. After a first review of content, 37 questionnaires were excluded because they were incomplete. Finally, 278 questionnaires were included in the research (response rate 64.35%).

Stakeholders included in the research are composed as shown in the following Table 2:

Category	Number	Perceptual
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Male	187	67,27%
Female	91	32,73%
	278	100%
Client	116	41,73%
Suppliers	74	26,62%
Employees	52	18,71%
Public institutions	27	9,71%
Shareholders	7	2,52%
Competitors	2	0,72%
	278	100%

Table 2. Stakeholders that have asked to the survey

As a first step to assess non-response bias, we compared the distribution of the responses with the corresponding distribution of the submitted questionnaires. A chi-square test indicated that the pattern of responses reflected the sample frame; then there is not level bias related to response rates. As the second step, we compared early with late respondents (Li and Calantone, 1998). The first 75% of returned surveys were classified as 'early respondents' (N = 208). The last 25% were considered 'late respondents' (N = 70). We analysed the responses of the two groups and we have not found significant differences.

### **Data Analysis**

The hypotheses were tested using SEM (MacCallum and Austin, 2000).

The reliability of model was measured using Cronbach's alpha. According to Hinkin (1995) the criteria of reliability is satisfied in presence of an  $\alpha$  coefficient equal or greater than 0.7.

Then convergent validity of model was verified using the the composite reliability (CR) and the average variance extracted (AVE). According to Hair et al. (2010) the model can be considered convergent if the following cut-off values are respected: CR > 0.7 and AVE > 0.5

## **RESULTS**

### **Reliability and convergent validity**

Table 3 reports Cronbach's alpha ( $\alpha$ ), Composite Reliability (CR), and Average Variance Extracted (AVE) coefficients for the investigated constructs and items.

Construct	Items	$\alpha$	CR	AVE
<i>Company's feeling</i>	CF <sub>1</sub>	0.72	0.83	0.63
	CF <sub>2</sub>	0.87		
	CF <sub>3</sub>	0.91		

<i>Alignment of organisational models</i>	AO <sub>1</sub>	0.83	0.72	0.54
	AO <sub>1</sub>	0.92		
	AO <sub>1</sub>	0.73		
<i>Company involvement</i>	CI <sub>1</sub>	0.77	0.92	0.51
	CI <sub>2</sub>	0.74		
	CI <sub>3</sub>	0.79		
<i>Level of communication</i>	LC <sub>1</sub>	0.91	0.74	0.71
	LC <sub>2</sub>	0.72		
	LC <sub>3</sub>	0.82		
<i>Transparency of communication</i>	TC <sub>1</sub>	0.74	0.84	0.63
	TC <sub>2</sub>	0.83		
	TC <sub>3</sub>	0.71		
<i>Information sharing</i>	IS <sub>1</sub>	0.77	0.76	0.52
	IS <sub>2</sub>	0.76		
	IS <sub>3</sub>	0.92		

Table 3. Relationships among Study Constructs

*Structural Equation Modelling*

Using SEM, the hypotheses were tested as shown in the following Table 4. Only the Hypotheses with a probability value (P-value) of less than 0.05 were accepted.

Hypothesis	Standardized regression coefficient	P-value
H <sub>1</sub> (+): Company's feeling →MS	0.127	0.02
H <sub>2</sub> (+): Alignment of organisational models →MS	0.022	0.04
H <sub>3</sub> (+): Company involvement →MS	0.231	***
H <sub>4</sub> (+): Level of communication →MS	0.198	***
H <sub>5</sub> (+): Transparency of communication →MS	0.073	0.04
H <sub>6</sub> (+): Information sharing →MS	0.272	***

Notes: \*\*\*: Standardized regression coefficient is significant at the 0.001 level (two-tailed).

Table 4. Hypothesis Testing Results

To verify the fitness of the structural model some indexes are measured such as the chi-square-to-degree-of-freedom ratio ( $\chi^2/df$ ), the Tucker–Lewis index (TLI), the goodness of fit index (GFI), and the Incremental fit index (IFI) (see Table 5).

Index	Value
the chi-square-to-degree-of-freedom ratio ( $\chi^2/df$ )	9.87
goodness of fit index (GFI)	1.12

Tucker–Lewis index (TLI)	0.95
Incremental fit index (IFI)	1.17

Table 4. Fitness indexes

To ensure the fitness of model the chi-square-to-degree-of-freedom ratio ( $\chi^2/df$ ) must be equal or greater than 3 (Byrne, 2001), the goodness of fit index (GFI) must be higher than 0.90 (Jöreskog and Sörbom, 1996), the Tucker–Lewis index (TLI) must be greater or equal to 0.9 (Bentler and Bonett, 1980), the Incremental fit index (IFI) must be higher or equal to 0.9 (Hu and Bentler, 1999).

As shown in the Table 3 and 4 all the hypothesis are supported and all the cut-off values to measure the fitness of model are respected by the model.

## DISCUSSION

The results of empirical research clearly show that there is a relationship between the elements identified as relevant in building stakeholders' engagement strategies and the companies' MS. The results show that the company's attention to its stakeholders' needs for information is positively related to better economic performance. This evidence cannot be considered as support for the validity of companies' stakeholders' engagement but, as underlined in the conceptual and theoretical framework, it highlights the relevance for companies to proactively improve the quality of their relationships with their stakeholders, in order to build the condition to develop a strong collaboration with them.

More specifically, the research shows that there is a positive relationship between 'company's feeling' and companies' MS ( $H_1$ ). These results are consistent with the observations and reflections arising from sociological and philosophical studies (Scott and Lane, 2000), and underline the advantages and opportunities for companies to overcome a perspective focused only on the tangible elements of relationships, in order to shift from a transactional to a relational perspective (Grönroos, 1997). The opportunities related to this proposed change in perspective are relevant if we consider that, by defining strategies aligned with stakeholders' strong beliefs, companies will gain opportunities to overcome every kind of competitiveness because they will have the support of a strong network of actors (Pels et al., 2000).

This study has shown a positive relationship between 'alignment of organisational models' and companies' MS ( $H_2$ ), and between 'company involvement' and companies' MS ( $H_3$ ). These findings are consistent with previous sociological and managerial studies (Noland and Phillips, 2010). This result underlines how the capability of companies to understand the perspectives and mind-sets of stakeholders, and their ability to define aligned organisational models able to build condition of reciprocal understanding and loyalty with stakeholders, represent a relevant key for the companies'

competitiveness (Lawrence, 2002). Furthermore, the ability of companies to involve (or at least to give the impression of involving) stakeholders has a relevant influence on the stakeholders' perspectives and, consequentially, it impacts on the opportunities for companies to define efficient, effective, and sustainable stakeholders' engagement strategies (Payne and Calton, 2002).

Empirical evidences also show that there is a positive relationship between 'level of communication' and companies' MS (H<sub>4</sub>). This result highlights the relevance for stakeholder to have information on the companies in order to better guide their behaviours and choices (Foster and Jonker, 2005). In the the stakeholders' engagement view, the companies' availability to share information becomes the manifestation of the companies' will to invest in relationships with stakeholders (Carr et al., 2008).

Finally, this study shows a positive relationship between 'transparency of communication' and companies' H<sub>5</sub>, and between 'information sharing' and and companies' H<sub>6</sub>. These findings are consistent with previous studies on the strategic relevance of communication (Cornelissen, 2014). They show that for stakeholders the opportunity to receive easily understandable information from companies has a strong impact on their willingness to collaborate (Phillipson et al., 2012). Further to this, it is possible to affirm that the companies' attention to communication can be considered by stakeholders as a declaration of responsibility and, consequently, when communication is frequent and transparent, stakeholders develop a stronger loyalty towards companies and their strategies.

## FINAL REMARKS AND FUTURE DIRECTIONS FOR RESEARCH

Increasing competitiveness is pushing organisations and decision makers to identify new pathways to follow in order to survive. New challenges are emerging from the new market configurations and dynamics, and decision makers need to develop new approaches to face them.

A possible strategical pathway may be constructed by directly engaging stakeholders in company strategies and actions in order to build more favourable conditions for the company's survival (Greenwood, 2007). By developing a strong collaboration with stakeholders, companies gain opportunities to receive more information on market configurations and dynamics, as well as opportunities to 'use' the resources, competencies and capabilities of a large network of actors (Maak, 2007).

Improving a stakeholder's engagement strategy is not easy, however; some preliminary conditions need to be met. As proposed in this paper, companies need to be proactive in developing conditions on which to base strong collaboration with their stakeholders. Companies need to offer to stakeholders the opportunity to evaluate whether their behaviours and strategies are aligned with the stakeholders' perspectives; companies also need to better understand the perspective of stakeholders in order to identify possible points of contact based on reciprocal understanding and loyalty.

Companies may overcome the limitations of traditional competitive approaches by adopting a collaborative view of the market, based on a win-win logic in which all actors have the opportunities to achieve their aims (Noland and Phillips, 2010).

From this point of view, this paper has tried to enrich previous studies on stakeholders' engagement by offering a wider perspective from which to directly investigate the conditions that are required to develop a strong collaboration between companies and stakeholders. Obviously, the reflections and empirical evidence expressed here cannot be considered exhaustive, but they may be considered as a first step toward future research that is needed to better investigate the implications of identified variables, studying a larger sample of companies in different cultural contexts with different methodologies and research pathways. Indeed, the proposed research and the investigated sample cannot be considered representative of the whole investigated phenomenon.

Despite this, several implications emerge from the findings of this study, from a theoretical as well as from a practical point of view. From the theoretical point of view, we stress the need to:

- develop new models, instruments, and approaches able to support decision makers and organisations when studying, understanding, and managing cognitive dimensions that influence stakeholders' behaviours and decisions;
- wider the perspective of study and observation in the domain of stakeholders' engagement overcoming a focus strictly related to the investigation of 'tangible evidence';
- better define the implications and opportunities related to the correct management of key processes, such as communication and knowledge management.

From a practical viewpoint, we stress the need to:

- better investigate and understand the perspectives and mental models of stakeholders;
- define strategies to align companies' strategies and behaviours to the perspectives and mental models of stakeholders;
- pay attention to all the phases of contact between companies and stakeholders, starting from the phase that precedes the emergence of a relationship.

Unimaginable opportunities are related to the development of effective strategies to engage stakeholders but much effort is required from researchers and practitioners. Therefore, further work is required to researchers and practitioners to develop the concepts underlying stakeholders' engagement, and to implement and test the strategies that may achieve this.

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## STRUCTURAL EQUATION MODEL FOR THE STUDY OF ENTREPRENEURIAL EDUCATION IN AN OPEN PLATFORM

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### ABSTRACT

The overall goal of this paper is to provide a contribution to the studies that aim to boost the entrepreneurial education and the entrepreneurial activity of universities, through the analysis and implementation of the experimental lab, a tool to support to the activity of universities favouring entrepreneurship, and led by the belief that potentially implementable results have to be achieved. A new tool of a virtual platform, the ExperimentaLab, in order to provide students with an entrepreneurial training program and a strong network to simulate the progression from an idea to a real start-up. A first simulation was run in 2014, showing that the experimental lab could be effective at processing an idea and make it potentially ready for market and investors and a valid educational tool potentially implementable by entrepreneurial university. A second and a third simulation (ended on December 2015) were then run, trying to overcome previous limitations. This research aims to propose to investigate whether the hypothesized work structure of the ExperimentaLab and related cognitive dynamics may support the entrepreneurial education and entrepreneurial activity of universities through a PLS-Path modeling approach and multi-group path analysis.

**Keywords:** *Structural Equation Model, Entrepreneurial Education, Open Platform and ExperimentaLab.*

### INTRODUCTION

Entrepreneurship education is an important element for entrepreneurial attitude and intention for upcoming entrepreneurs (Souitaris and Al-Laham, 2007). There is a significant and substantial consensus that entrepreneurship is a skill, which can be developed through education. Education should provide an innovative learning environment, thus helping students to develop entrepreneurial competencies (Commission, 2011). At the same time, teachers have to be seen as mentors and supervisors in a cooperative and interdisciplinary learning process characterized by creativity, meaning making and interactivity (Erkkilä, 2000; Lackéus, 2015).

Considering the prominent role of entrepreneurship to support the economy worldwide, it is not surprising, as stated in numerous studies, that entrepreneurship education is becoming more and more important everywhere in the world, while research in entrepreneurship is growing and getting legitimacy in the scientific communities (Fayolle et al., 2014, 2008; Fayolle, 2009, 2007; Honig, 2004; Jack and Anderson, 1998; Lee et al., 2007).

Among others, Rothaermel et al. (2007) pointed out that universities have been increasing their entrepreneurial activity through different tools: patenting and licensing, incubators, science parks, TTOs, etc. The presence of an innovation catalyst to create the necessary link among all the involved actors is crucial to stimulate the creation of an effective innovation ecosystem (Ferraris and Grieco, 2015). Innovation developed within the network could then give rise to a virtuous circle with positive outcomes such as local development, attraction of foreign direct investments and internationalisation (Bresciani, 2010). In such an ecosystem universities can play a key role, sustaining the development of new ideas from would-be entrepreneurs (Rothaermel et al., 2007).

Studying the impact of entrepreneurship education naturally leads to studying the question of its evaluation/measurement, which cannot be totally disconnected from that of its pedagogical engineering, both at the design level and at the program implementation level (Bechard and Gregoire, 2005). Indeed, the evaluation of education programs appears to be a complex question (Dionne, 1995; Ng and Feldman, 2009; Ostroff, 1991), and there are numerous types, objectives, and methods of evaluation (Fayolle and Gailly, 2015).

The need for universities to become entrepreneurial is due to a new open way of innovating termed by Chesbrough (2003) "open innovation". If closed innovation is internal, centralized and somehow "self-referential", open innovation is externally focused, collaborative and based on the recognition of the importance of internal and external knowledge flows. Since knowledge is a fluid mix of insights (Davenport and Prusak 1998), the wider it flows the higher the chances of generating innovation. Hence, the shift from innovation initiatives that are centred on internal resources to those that are centred on external networks (Nambisan and Sawhney 2011). In an attempt to provide a contribution to the studies that aim to boost entrepreneurial education and the entrepreneurial activity of universities, we designed, realized and tested an experimental lab (the ExperimentaLab), an open innovation platform to support would-be entrepreneurs in acquiring entrepreneurial competencies and skills they do not possess.

In so doing, the ExperimentaLab maintains the focus on the third mission of the university, in an attempt to educate would-be entrepreneurs by helping them practise the managerial and entrepreneurial functions of new venture creation, testing its functioning by a simulation, role play

*Steps of the research project*

At the moment our research project has been developed through the following steps: 1) literature review narrowing down from the topic of entrepreneurship to that of entrepreneurial learning and, finally, experimental labs; 2) focus group to dispel some doubts; 3) first design of the platform ExperimentaLab; 4) first simulation: analysis of results and comparison with control groups; 5) revision of the platform, research methodology and questionnaire; 6) second and third simulations: analysis of results through structural equation modelling; 7) fourth simulation (on-going).

## THE EXPERIMENTALAB

Experimental labs are networks of individuals “federated” from universities, research labs, financial markets and business partners, who become part of *an innovative ecosystem* by means of a virtual platform, rather than relying only on their capabilities (Andersson et al., 2010). Aspiring entrepreneurs can obtain important support via experimental labs to proceed from an intuition to a product/service ready for market and investors. Experimental labs create a dynamic environment that links, in a new and unexpected way, aspiring entrepreneurs, academics, researchers, experts and practitioners. Experimental labs offers the possibility to perform an iterative process of analysis, in an evolutionary way between mentoring and coaching. From a cognitive perspective, experimental labs can represent a lever for knowledge creation and exploitation (Iscaro and Castaldi, 2014).

In the attempt to contribute to the activity of universities favouring entrepreneurship, and led by the belief that potentially implementable results have to be achieved, this research sheds light on the adoption, by entrepreneurial universities, of a new tool, the *ExperimentaLab*, in order to provide students with an entrepreneurial training program and a strong network to simulate the progression from an idea to a real start-up. As a tool for entrepreneurial training, the ExperimentaLab aims to improve individual competences to start a new venture (Matricano, 2014).

The need for an Entrepreneurial University is caused not only by social and market changes but also by the emergence of a different way to innovate which makes synergy as its vision and realizes “the working together” as its major tool. In this context, basing on the assumption that value of experimental labs depends on their members’ cognitive assets and that knowledge is a peculiar resource which does not behave in the way that physical assets do, the research sets out to analyse the issue of experimental labs through the implementation of a virtual platform, the ExperimentaLab, where to actively develop entrepreneurial competencies through a simulation by role play. This is in line with the observation that entrepreneurial education requires practice: in a changing world, there is a need to teach methods that stand the test of dramatic changes in content and context (Neck and Greene, 2011).

*Focus Group and first platform design*

Before realizing the ExperimentaLab we needed a focus group with experts in order to dispel some doubts mainly depending on the embryonic stage of the experimental labs literature. Indeed, the development of the virtual platform was carried out only after dealing with the following three unaddressed issues: 1) concrete creation and organisation of teams by cognitive area, 2) value appropriation and regulation of relations, 3) virtual network fragility (Iscaro et al., 2015). Thus, basing on literature review and on the results of the focus group, the final design of the ExperimentaLab was built on three structuring elements: *roles, rules and resources* (Klabbers, 2009), able to allow cooperation and knowledge flows among participants, at the same time bordering the fragility related to a virtual community.

The lab was built on three *actors/roles*: aspiring entrepreneur, venture sitter, human resources. Anyone can be an *aspiring entrepreneur* with a good idea but this is doomed to be forgotten without the necessary support: thanks to the experimental lab aspiring entrepreneurs become part of an innovative ecosystem rather than relying only on their own resources. With a supposed background in entrepreneurship and/or management, the *venture sitter* (Matricano and Pietrobon, 2010) is a role somewhere between a mentor and a coach. The venture sitter helps the aspiring entrepreneur choose the most suitable human resources and define timing and goals, also providing them with indications to advance and assess the outputs from the human resources. In the ExperimentaLab, thanks to *human resources*, the aspiring entrepreneurs can access competences, skills and experience not possessed, in order to explore, analyse and define their ideas.

*Rules and resources* that make the daily exchange of knowledge and experience possible in the designed platform are: *mechanisms of externalization and sharing* (messaging, forums, videoconferences, meetings) through which all members of the ExperimentaLab can easily share their own intellectual capital; a *non-disclosure agreement* with the aspiring entrepreneur. This rule guarantees the non-disclosure of aspiring entrepreneurs' ideas by all members of the ExperimentaLab; the rule of "*work-for-equity*" to remunerate participants. As all agents involved assume the risk of enterprise, they do not overload the financial situation of the rising firm and follow the principle of "the success of one is the success of all": all together bet on the idea. This principle stimulates members' effort and reduces the fragility of virtual networks; the *Stage&Gate model* as a process for the development of business ideas.

In the everyday work of the ExperimentaLab, the starting point is an aspiring entrepreneur who "*entrusts*" his/her idea to the community of the lab. Ideally, the platform administrator (university) through an internal team of experts in entrepreneurship and innovation, analyses all the ideas submitted in order to select the most valid, those that actually will be "processed" in the lab. This is followed by a match between aspiring entrepreneurs and venture sitters. After these preliminary steps the real work begins. Together, aspiring entrepreneur and venture sitter identify the different

cognitive areas required to develop the business idea (e.g., marketing, legal, information technology, chemistry, graphics, digital, etc.) and the human resources for each one of them. Once human resources have agreed to participate in the project, they access the model *idea in progress*, based on a revised version of the Stage&Gate model (Cooper, 1994; Cooper et al., 2002). The stages are where the work is done; the gates are checkpoints that guarantee a satisfactory quality. Between the stages there are gates, checkpoints for quality control. They are confrontation moments with the general aim of assessing the real attractiveness and feasibility of the project based on a *go/no go* decision logic.

## SIMULATIONS

Simulations by role-play were conducted partly in a laboratory at the Department of Economics of the Second University of Naples (each student had a computer) and partly wherever the students could connect to the platform. The platform was open for the whole simulation time to allow students to log in at any time and work in the virtual environment.

A first simulation was run in 2014, showing that the ExperimentaLab could be effective at processing an idea and make it potentially ready for market and investors and thus a valid educational tool potentially implementable by entrepreneurial university (Iscaro et al., 2015). The simulation involved 31 students (17 male and 14 female) from a master's degree course in Market-Enterprise Relationship at Department of Economics-Second University of Naples. Students were divided into three groups to compare three different approaches to work in the ExperimentaLab, given the same starting conditions. Furthermore, in order to validate the ExperimentaLab process, four control groups were used that processed different business ideas but pursued the same aim: to make them potentially ready for market and investors. The students in the control groups were on a master's degree course in Business Planning of the Second University on Naples and were at the same stage in their university career as the students in the sample. They worked without the platform support, enabling the comparison between the final outcomes of the platform students and those of the control groups. The simulation produced results from two groups: 1) students engaged in the role play; their overall evaluation was strongly positive, with all the scores well over the threshold. Players valued the ExperimentaLab as effective to structure the everyday work and suitable to achieve the purpose to process an idea and make it potentially ready for the market and investors; 2) a committee constituted by experts from different fields: professors/tutors and instructors in the game; an expert in research methodology; an expert in innovative processes and finance; PhD students of the programme in Entrepreneurship and Innovation of the Second University of Naples as potential customers. The comparison between experts' assessments showed that the overall evaluation (deriving from the average score each group achieved in each item) was always higher for groups in the sample

compared to the control ones. We used the principal component analysis to analyse data. Basing on the results from principal component analysis, we suggested that the *effectiveness* of the business idea processed in the ExperimentaLab depends on the *ExperimentaLab design*. By effectiveness of the business idea we mean its attractiveness for potential customers and the likelihood to find investors and be launched on the market, while the ExperimentaLab design is defined by the structure of the roles (the suitability of the three roles and their respective functions to work in the ExperimentaLab) and the daily work processes (the ExperimentaLab as it was conceived in its everyday functioning – Stage&Gate model, interaction tools, etc.).

The proposition addressed, therefore, was that the ExperimentaLab design positively influences the effectiveness of the business idea processed within it.

After the first simulation we revised the platform to improve its functioning, of the research methodology and of the students' questionnaire, through the identification of the coefficient matrix and the Cronbach's Alpha test (Cronbach, 1951), to solve the limitations arising during the first simulation and empirical analysis and in relation to the number of variables analysed.

A second and a third simulation (ended on December 2015) were then run, trying to overcome previous limitations. In the second and third simulations, 75 students (43 male and 32 female) from two master's degree courses at the Department of Economics and Management of the Second University of Naples (Market-Enterprise Relationship and Business planning) played the role of aspiring entrepreneurs. Students spontaneously formed groups after a business idea competition, during which some of them presented their entrepreneurial ideas. Each group was composed by students playing the role of aspiring entrepreneurs, while mentors (i.e. courses professors and university's tutor/affiliated) played the roles of venture sitters and human resources.

The first purpose of this study is to investigate whether the hypothesized work structure of the ExperimentaLab and the related cognitive dynamics may support the entrepreneurial education and entrepreneurial activity of universities. In order to achieve this purpose the students who played in the platform, at the end of the simulation, filled in a questionnaire, which was structured into eight different items made up of variables measured on a semantic scale from 1 to 7 (where 1 meant the lowest score and 7 the highest). This scale was adopted for the relative ease and immediacy of implementation, although aware of the possible mechanisms of distortion potentially triggered in the respondents' answers (e.g. response set). To realize the questionnaire we carried out an operational definition detailed as follows: the item "*platform accessibility and navigation*" is composed of two variables: the ease of access to the platform services, and the ease of platform navigation; "*platform interactivity and comprehensibility*" is formed of four variables: the comprehensibility of platform language, the clarity of rules, the importance of the forum, and the importance of face to face;



*“simplicity and clarity of the procedures”* constitutes of four variables: the simplicity of the form Idea in progress, the clarity of the form rules, the clarity of the difference between a stage and a gate, and the clarity of the Stage&Gate contents; *“functionality of the Stage&Gate model to develop business ideas”* includes variables related to the suitability of the Stage&Gate for the simulation goal and to the functionality of the different stages of the adopted Stage&Gate model; *“utility of the ExperimentaLab for the development of the business idea”* is composed of five variables: the feasibility of business idea, the propensity to invest in the idea, the acquisition of useful competences, the self-efficacy, and the effectiveness of the platform compared to traditional learning methods; *“educational effectiveness”* is formed of eight variables: the growth of the entrepreneurial spirit, the usefulness of the platform for the determination of personal goals, the increase of creativity, the increase of ambition, the increase of failure tolerance, the increase of risk propensity, the cognitive enrichment, and the increase of work in group ability; *“support activity”* is constituted of four variables: the impact of skilled human resources, the importance of venture sitter, the level of collaboration with other human resource external to the ExperimentaLab network and the level of collaboration with medium-large companies; *“players’ satisfaction”* includes four variables: the overall satisfaction of players, the match with expectations, the propensity to suggest to others to participate to the program and the level of commitment.

## STRUCTURAL EQUATION MODEL

Data generated by the second and third simulations were analysed through a structural equation model (SEM).

In the behavioural sciences, researchers are often interested in studying theoretical constructs that cannot be observed directly. These abstract phenomena are termed latent variables. Because latent variables are not observed directly, it follows that they cannot be measured directly.

The Structural Equation Model is based on the relationships between the manifest variables (indicators) and the hypothesized latent variables (constructs). A construct (latent variable) is conceptually a term used to describe a phenomenon of theoretical interest (Edwards and Bagozzi, 2000) and it is measured through the manifest variables that are the items of the questionnaire.

By means of PLS algorithm both the estimation of the latent variables and the estimation of the parameters is obtained. In particular, the PLS-Path Modeling implies some steps.

The first step consists in an iterative procedure made up of simple and/or multiple regressions by taking into account the relation of the structural model (or internal model), of the measurement model (or external model), and of weight relations. The result is the estimation of a set of weights, which are used to calculate the scores of the latent variables as linear combinations of their manifest variables.

Once the estimations are obtained the following steps imply the non-iterative estimation of the structural model and measurement model coefficients.

$$\hat{\xi}_j = Y_j = \sum_k \tilde{w}_{jk} x_{jk} \quad (1)$$

The objective of this step is the calculation of the weights required to obtain the final estimates of each latent variable as linear combination of its manifest variables. In equation (1)  $\tilde{w}_{jk}$  are called external weights, standard unit of variance  $Y_j$ . This standardization is done to avoid the ambiguity of scale of the latent variable.

$$Y_j = \sum_i \hat{\beta}_{ji} Y_i \quad (2)$$

$$\hat{\beta}_{ji} = (Y_i' Y_i)^{-1} Y_i' Y_j \quad (3)$$

The second step of the PLS-PM algorithm consists in calculating the structural coefficients (path coefficients) and the measurement model parameters (loading coefficient). The structural coefficients have been calculated through OLS in multiple regression relating to it (2)(3), as well as the measurement model parameters (loading coefficient).

Basing on the analysis of the second and third simulation results, this research aims to propose a PLS-PM approach<sup>1</sup> to investigate the entrepreneurial effects stemming from the adoption of the ExperimentaLab and thus to draw implications for entrepreneurial universities. In particular, we attempt to estimate a multi-group path analysis for simulators in the context of structural equation modelling (SEM) in order to identify differences with respect to our key hypotheses.

#### *Multi-groups Structural Equation Models*

Multi-groups Structural Equation Models allow to examine models simultaneously across multiple samples. The analysis basically happens through the study of the invariance (Horn and McArdle, 1992; Meredith, 1993), which proceeds sequentially through a series of steps each of which introduces additional constraints with respect to the initial model. The basic requirement for a model of multiple groups is that populations are clearly defined and the samples are independent (e.g., males and females).

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<sup>1</sup> The links between constructs of a structural equation model may be estimated with independent regression equations as the PLS-Path Modeling approach or through more involved approaches such as those employed in LISREL. In PLS approach, there are less probabilistic hypotheses, data are modelled by a succession of simple or multiple regression and there is no identification problem. On the contrary in LISREL, the estimation is done by maximum likelihood, based on the hypothesis of multinormality and allows the modelisation of the variance-covariance matrix. Given the low sample size, the non-normal distribution of data, the possible to used both reflective indicators and formative indicator, we have decided to used for our analysis the PLS-Path Modeling approach.

When we estimate the meaning of the differences of the paths of a particular model for two or more sets of data, a t-test based on the standard errors is obtained by means of a re-sampling procedure like bootstrap. An alternative approach, i.e. a permutation or randomization procedure (Chin, 2003; Esposito Vinzi et al., 2010), is available, in which a subset of all the possible data permutations between the sample groups is constructed. Randomization or permutation procedures are the favorite tests of significance for non-normal data. In this perspective, we utilized the randomization procedure to examine our sample with non-normal data.

The null and alternative hypothesis to be tested to compare the PLS parameter (path coefficients) estimations between two independent groups are  $H_0$ : path coefficients are not significantly different;  $H_1$ : path coefficients are significantly different (Crisci and D'Ambra, 2012).

## RESULTS

As previously illustrated, the conceptual model (and the questionnaire) included 33 indicators loading onto eight constructs: "platform accessibility and navigation", "platform interactivity and comprehensibility", "simplicity and clarity of the procedures", "functionality of the Stage&Gate model to develop business ideas", "utility of the ExperimentaLab", "support activity", "players' satisfaction". The correlation matrix shows a high correlation among the variables of each semantic area (i.e. construct) on which the questionnaire was articulated. Starting from this observation, we suggest that the structure of the *ExperimentaLab*, making the knowledge flows possible, supports the acquisition of entrepreneurial competences by would be entrepreneurs, thus promoting educational effectiveness (our latent variable), which in turn stimulates players' satisfaction.

Before analysing the existence of the significant relationships among the latent constructs, the descriptive statistics was calculated regarding the aforementioned non normal distribution of the data. In particular the Shapiro-Wilks test that is based on the comparison between the quantiles of the normal distribution and quantiles of the data; the standardized Skewness test to determine the lack of symmetry in the data and the standardized Kurtosis test to show the shape of the distribution that it is either flatter or more pointed than the normal distribution. The value of Shapiro-Wilks close to 1 allows us to reject the null hypothesis and accept the alternative hypothesis that corresponds to the non-normal distribution data. Moreover, the values of skewness and kurtosis demonstrate a deviation from a normal distribution. These results suggest non-normal data, thus not only the regression model but also the other traditional estimation procedures, based on the normal distribution, can't be used. For these reasons, we applied the Structural Equation Model with the PLS-PM approach based on the conceptual model illustrated in figure 1.

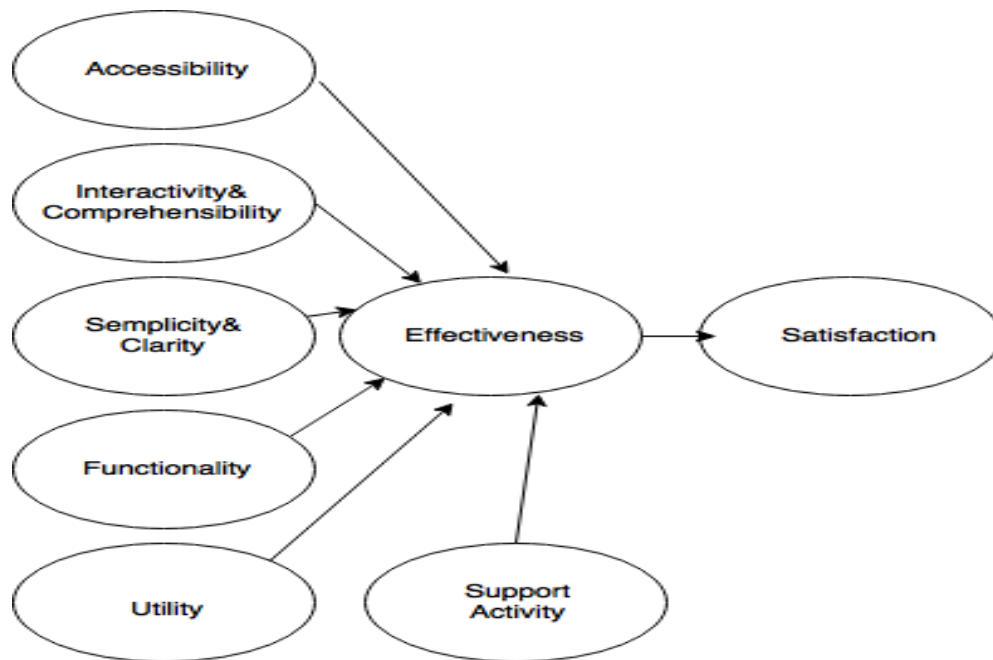


Figure 1. The conceptual model.

According to the structure PLS, every step of the model is evaluated: the measurement model, the structural model and the entire model. Indeed, the PLS provides different adaptation indices. For this reason, we analysed the conceptual model with the  $R^2$  which value, as shown by the path diagram (figure 2), confirms the significance of the model with very satisfactory values of between .63 and .74 recorded.

The index value - both Cronbach's Alpha (1951) and Jöreskog (1978) - with the requirement of 0.70 or higher was achieved for all items observed, as demonstrated also by the path coefficients, standard errors and the confidence intervals (figure 2). Indeed, the path coefficient shows a significance of all ties because of the confidence interval not include zero values (figure 2).

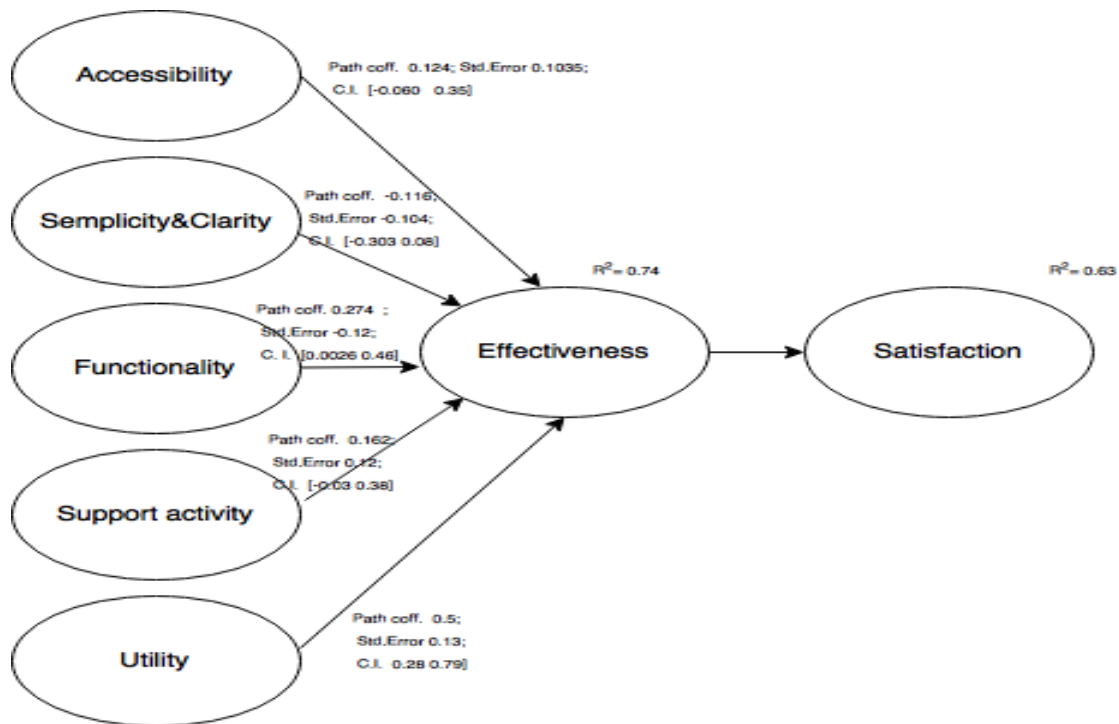


Figure 2. The path diagram for the evaluation of the entrepreneurial education generated by the adoption of the ExperimentaLab.

The difference between the conceptual model (figure 2) and the path diagram is the only construct “accessibility”, which is merged with the construct “interactivity & comprehensibility”, thus obtaining the significance of item predicted because the variables by these two constructs show the way to obtain the same information on the accessibility of the virtual platform.

Except for this difference, results confirm the significance of the conceptual model.

The constructs, “Accessibility”, “Simplicity&Clarity”, “Functionality”, “Support activity” and “Utility” are positively correlated with “Effectiveness”, and the construct “Effectiveness” is, in turn, positively correlated with “Satisfaction”. This confirms our hypotheses that the characteristics of the virtual platform (ExperimentaLab) support would-be entrepreneurs in acquiring entrepreneurial competencies and skills they do not possess, this way positively impacting on the educational effectiveness, which in turn generates students’ satisfaction..

Finally, we used the PLS approach to verify if there were significant differences in terms of path coefficient between two groups: females and males. The method used to check these differences is the Permutation Test, a randomization test that provides an option non-parametric. In this case both estimation methods give about the same results. Indeed, we didn’t obtain significant differences in the two groups, but the use of these different estimation methods allowed to bring additional information to our analysis.

## CONCLUSIONS, LIMITATIONS AND FUTURE RESEARCH

The relations highlighted through the Structural Equation Model permit to hypothesize a cause-effect relationship among items. In particular, we suggest that the structure of the ExperimentalLab – i.e. its accessibility, simplicity & clarity of procedures, functionality of the adopted S&G model, support activity of the involved network of actors and utility to develop the specific business idea – making the knowledge flows possible, fosters the acquisition of entrepreneurial competences by would be entrepreneurs, thus the educational effectiveness of the simulation training experience (our latent variable). This in turn generates players' satisfaction.

The small number of observations represents one of the most constraining limitations of this research. For this reason another simulation (the fourth) is going on and another has already been planned, in order to go over 100 observations.

Moreover, thanks to a larger sample, in the future, a Multi-groups Structural Equation Model (SEM) could be used to test the differences in terms of path coefficient among groups, basing on players demographics (gender, previous experience, family background, etc.) or groups performances.

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## INFORMATION AND INFLUENCE IN SOCIAL NETWORK OF THE OPEN SOURCE COMMUNITY

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### ABSTRACT

In this article, we present the social networks emerging from GitHub repository hosting service, which is nowadays the most popular repository for Open Source projects. We analyze two social networks emerging from the service: a network of followers and members together with the owners of the project repositories. We utilize the unique data set obtained by web-scraping GitHub in February and March, 2016. Our findings prove the existence of power-law-like scale behaviour and the statistically significant correlation between the structures of both networks. This means that the relations of following someone on GitHub repository hosting service which can be seen as a proxy for information flow and influence in the service and the collaborating with them are not independent.

**Keywords:** *Open Source, GitHub, followers, collaboration, influence, quadratic assignment procedure, power-law behaviour, innovations*

### INTRODUCTION

The Open Source software constitutes a software class with its source code made available publicly. The license allows the end users to study, modify and distribute the source code to anyone and for any purpose. The creation process of the Open Source software is associated with occurring communities – groups of people interested in or working on specific projects (Raymond, 2003). Community forms a social network, where innovations are created and distributed. By innovation, we mean “the process of commercialization of a newly developed or adopted product or practice” (Freeman and Soete, 1997). In particular, cooperation among developers which leads to the creation of a new product (new software, or improvements to previously existing one) can be viewed as a process which generates innovation. Open Source also significantly affects the situation on the software market. In recent years a rapid growth in the number of organizations that choose the Open Source licenses for their products is noticed. Although Open Source software production relies usually on volunteer contributions, even enterprises associated with typically commercial activities, such as Samsung, Google or Microsoft, tend to release large amounts of code for the needs of Open Source projects. This makes the Open Source

one of the most discussed topics in analysis of software and information technology markets (Gallego *et al.*, 2008, Celińska and Lasek, 2015).

The economic literature considering the Open Source phenomenon tends to be limited to the supply side of the software market only (Crowston *et al.* 2012). The existing empirical research revolves around extracting the determinants of the Open Source license choice made on a firm or a project level (Lerner and Tirole, 2002; Bonaccorsi and Rossi, 2003; Koski, 2007). Additionally, a great amount of research has been conducted on explaining the incentives that motivate the individual developers to contribute to the Open Source projects (Hars, 2002; Ye and Kishida, 2003 Bonaccorsi and Rossi, 2006; Krishnamurthy *et al.*, 2014). Economists are mainly absorbed by the special nature of the Open Source software manifested in its characteristic of public good. What is more, this kind of software is also a subject to the network externalities (Bonaccorsi and Rossi, 2003; Popovici, 2007; Celińska and Lasek, 2015), which is a surprisingly rarely mentioned issue in the relevant literature.

Socially connected computing is rooted in the study of corporate portals and groupware (Goggins, Petakovic, 2014). A substantial literature exists, for example, focused on the examination of SourceForge, an Open Source repository that started in 1999 (Lakhani and Wolf, 2005; Wu *et al.*, 2007; Fershtman and Gandal, 2008; Meissonier *et al.*, 2012). SourceForge, despite its popularity, lacks features to make social ties and keeping up with other developer's updates (Lee *et al.*, 2013). More recently implemented, GitHub is currently one of the largest repository hosting services related to the development of Open Source software, featuring elements of social network service. As of Dec 31, 2015, GitHub repository hosting service has more than 16 million of registered users, and over 25 million of repositories. It is built on top of the control version system Git. Although the registrations of the early users were in 2007, the service officially launched in April 2008.

The aim of this article is to investigate the connection between the information flow and the process of creating innovations in the Open Source community. We analyze the behaviour of developers who cooperate voluntarily creating Open Source software. We will verify the following research hypotheses:

- There exists a statistically significant correlation between the structure of the network representing the flow of information about developers' activity in the repository hosting service and the structure of the network describing the creation of innovations between those developers.
- The phenomena of the information flow and the influence of developer and the collaboration with them exhibit the power-law scaling behaviour.

Our objective will be obtained by estimating the value of Kendall correlation coefficient. To validate the statistical significance, the Quadratic Assignment Procedure (QAP) will be used, since the data set analyzed is dyadic. To verify the power-law hypothesis, we will follow the procedure suggested by

Clauset *et al.* (2009). We will utilize a unique database, obtained by *web-scraping the* repository hosting service GitHub.

## INNOVATIONS AND FLOW OF THE INFORMATION IN THE OPEN SOURCE COMMUNITIES

Innovations in the Open Source community are created through cooperation among developers working in a distributed environment (Kogut and Metiu, 2001). Open Source software constitutes a kind of discrepancy in terms of classical economic analysis: a special definition of ownership expressed in the license agreements and usual lack of direct remuneration for developers should encourage them to avoid making effort, thus the source code should not be created. In fact, the behaviour of developers is quite the opposite. It was noticed that the Open Source developers generate innovation within a horizontal network. Von Hippel (2007) described the environmental conditions encouraging Open Source software developers to generate innovations. They were described from the institutional point of view (there must occur incentives to innovate, and the ownership rights have to be precisely defined and respected) not regarding the characteristics of the developers themselves. The impact of developer's position in the community's social networks tended to be omitted in the existing research concerning cooperation among Open Source developers and its contribution towards creating innovations.

### *Social networks and information flow in the GitHub repository hosting service*

GitHub is a collaborative, repository hosting service that includes social features bringing a new transparency to the development project (McDonald *et al.*, 2014). The activity of its registered users forms several kinds of social networks. The most intuitive is the network of collaboration between developers within the project repositories. The existence of such a network stems directly from the Open Source licenses' statements, that enable modifications of the publicly accessible source code. Due to the special model of collaboration in the GitHub repository hosting service, this network is embedded in the observable network of users that are granted permission to contribute to the projects (users who made a personal copy of the project repository, in GitHub's jargon *members*). The phenomenon of collaboration between GitHub users can be seen in at least two ways. Firstly, one can analyze bipartite graphs of developers and their particular repositories they contribute to. Secondly, as suggested by Lima *et al.* (2014), one can project the mentioned graph onto the set of users – this way, developers who contribute to at least one common repository are connected to each other. Moreover, we propose the third way of mapping the relationship of collaboration: the connection between the initial owner of the project repository and the members of the repository (however, the members

themselves are not connected). This way we preserve the hierarchical nature of the most popular model of collaboration in the GitHub repository hosting service.

The second type of social network that can be observed in the GitHub repository hosting service is the network of *followers* – users who agreed to be sent notifications about one's activity on GitHub. The network of followers may be seen as the proxy of influence process in the service. As Goggins and Petakovic (2014) state: following a developer gives them a degree of influence. The more followers a developer has, the larger the group potentially interested in their work, creating a potential for even greater influence. The network of followers also incorporates the flow of information in the service. Even if not capable of contributing to the projects of “globally” popular developers, users of GitHub are interested in their work. This explains enormous numbers of followers of celebrities, like GitHub's staff. On the other hand, following less popular developers improves the efficiency of matching possible coworkers. This is closely related to the spillover effect. Knowledge spillovers are reported by Fershtman and Gandal (2008) to be correlated with the structure of the social networks, since contributors who work on several projects are likely to exchange information and knowledge. While following a person, one is alerted about their activity in the service: the creation of new repositories, submitted commits, issues and pull requests, along with *starring* (giving a distinction to) another developer's project repository. The process of following should considerably decrease the cost of acquiring information about the possible coworkers and the projects one would like to contribute to, since developers are quickly given the notification instead of browsing the service on their own. What is more, analysis of 199 GitHub's most followed users and their followers by Blincoc *et al.* (2016) showed that popular users influence their followers by guiding them to new projects. This is why we stipulate that there occurs a structural correlation between the network of followers and the network of members in GitHub repository hosting service.

Similar to the network of followers, yet of different kind of information provided, is the network of *watchers*. A watcher is a follower of the particular repository. While notifications stemming from following a developer supply quite a diverse range of information, the alerts for watchers are confined to the activity within one repository (mostly issues, bug fixes, and the collaborations within project). Intuitively, watchers have probably been already interested in the development of that particular project. There are even scenarios that contributing to the project comes before becoming a watcher. That is why we do not include the extended analysis of this network in this research.

#### *Creation of innovation within GitHub repository hosting service*

Every registered user of GitHub has their own site that integrates social media functionality directly with code management tools (Marlow *et al.*, 2013). Each individual user's profile contains public information about their biographical characteristics (the date of joining the service and the optional

description of location, employer, personal site and e-mail address), the list of public project repositories, and the number of people following the user as well as the number of people that the user follows. Everyone, even unregistered users of the service may browse the profiles and download the public project repositories.

The contribution to the project may occur in at least two ways:

1. by sending via e-mail the patches to the author of the original project;
2. by submitting the *pull-requests* – the proposed changes to the projects that may be accepted or declined by the maintainers of the project.

The difference between those two options is that the submitting of pull request requires the prior registration in the repository hosting service. The developer that is willing to commit to the original repository (and thus make it an *upstream* repository commit) has to *fork* the existing project repository (create their own copy of the source code). As a result the user (according to the GitHub's jargon now known as a *member*) is granted the access to the complete source code even with its all *branches* that were created before the project had been forked. The members may introduce their commits (proposed bug fixes and changes to the source code) locally, but are also allowed to synchronize the state of their repositories with the state of the original project. If the maintainer of the original project repository accepts the changes introduced in the pull request, both repositories are *merged* and the history of submitted commits by the individual users is preserved. The process of contributing to the project within GitHub repository hosting service is illustrated on the Figure 1.

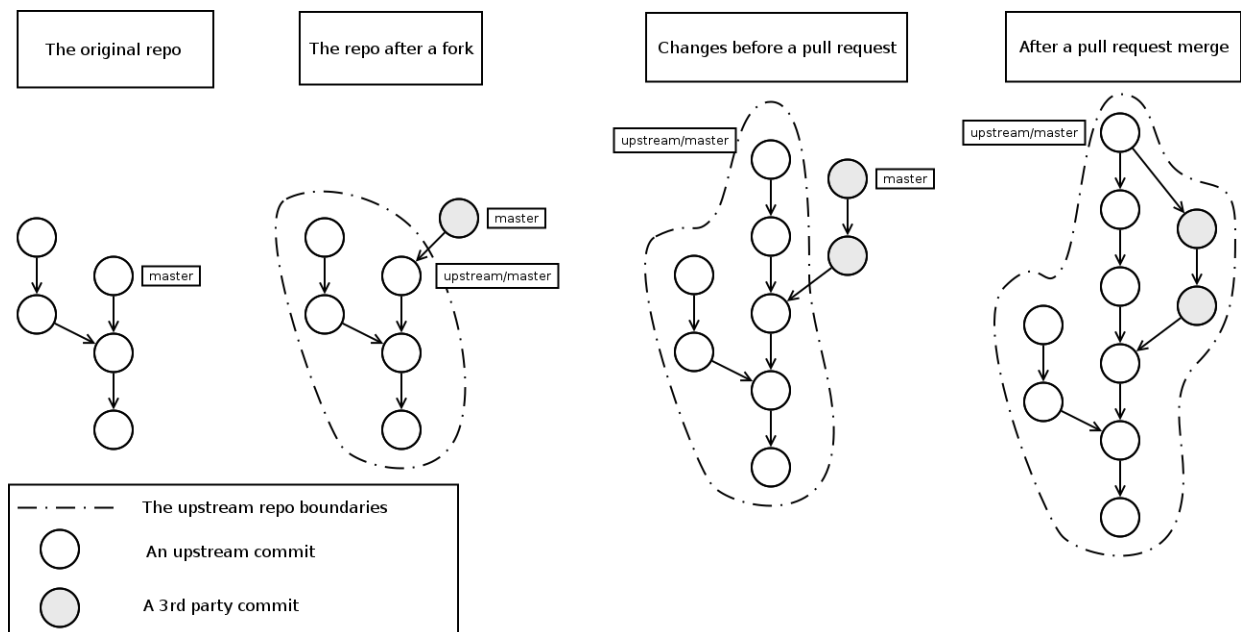


Figure 1: GitHub's "fork&pull" model of contributing to the source code.

## METHODOLOGY

We consider a group of agents (developers)  $V = \{1, \dots, N\}$ , who are members of a social network represented by a directed graph  $G(V, E)$ , where the set of edges  $E$  represents connections between agents. Self-loops are not allowed in this graph. The neighborhood of node  $i \in V$  is defined as  $N_i(G) = \{j \mid (j, i) \in E\}$ . In other words, the set  $N_i(G)$  represents situations where the event studied has occurred (e.g., innovation was created through cooperation, someone decided to follow someone, etc.). Each agent (a node in the graph) can be described with a set of characteristics, such as gender, geographic area, number of repositories hosted on GitHub, most frequently used programming language, number of stars (distinctions) given to their projects, number of followers, number of followed developers, etc.

We represent the developers' following relations by means of directed graph  $G_f$ , which we call the *followers* graph. There is an edge in  $G_f$  between  $A$  and  $B$  if and only if  $A$  follows  $B$ . The second directed graph we consider in this study is the *members* graph  $G_m$ : representing the relation of forking one's project repository (and thus creating an innovation by collaboration with the owner of the repository). The edges of this graph show the hierarchical structure of forking: there is an edge in  $G_m$  between  $A$  and  $B$  if and only if  $A$  is a member of a project repository owned by  $B$ .

To verify the structural correlation between two graphs, we compute the Kendall's coefficient. The statistical significance of this coefficient is analyzed with the Quadratic Assignment Procedure (QAP). This is a widely used method in Social Network Analysis, based on simulation, that is useful for analyzing dyadic data sets. The QAP correlation analysis follows a two-step procedure. In the first step, we calculate the observed correlation coefficient for corresponding cells of two matrices. Then, in the second step, the rows and columns of the matrices are randomly permuted, and then the correlation between the matrices is recalculated. This procedure is similar to *bootstrap* and re-sampling method. We repeat this process 10 000 times. The resulting distribution of correlation coefficients is used to determine the probability that the observed correlation would be significant. Although QAP analysis generates correlation coefficient values, they may not reflect a common significant level because the structure of social network data can limit the number of correlations (Gibbons, 2004). In addition, as Krackhardt (1988) suggested, QAP correlation coefficients may not be reliable indicators of the strength of relationships analyzed. For these reasons, we are focused on the p-value (Gibbons *et al.*, 2004).

### *Data set*

The data was collected using the *web-scraping* technique, i.e. automatic extraction of information from websites by *web crawlers* – Internet bots which systematically browse the World Wide Web. Scraping is focused on the transformation of unstructured data on the web, typically in HTML format, into structured data that can be stored and analyzed, e.g. in a spreadsheet. We collected the snapshots of the networks observed in GitHub repository hosting service in February and March, 2016.

The population of this research consists of users of GitHub repository hosting service registered in 2007-2012, which means 3 612 323 entities. We limited the span of registrations to make sure the developers managed to gain popularity, learned how to use the service and had enough time to start collaborating with others. Similarly to Lima *et al.* (2014), our sample is smaller: it consists only of registered users that are active and did not delete their profiles. What is more, the difference between the number of all registered users from the 2007 and the sample of this research also occurs due to the fact, that we are focused on the public repositories, disregarding private ones.

## RESULTS

### *Structural analysis and the power-law scaling behaviour*

The followers graph contains 725 641 nodes and 4 336 733 edges. The average degree (that is, the average number of followers, equivalently, the average number of followed developers) is 4.56. The analysis of in- and out-degrees distributions reveals that they are right-skewed. The members graph has 668 980 nodes connected with 2 722 105 edges and an average degree 2.862. Similarly to the followers graph, the distributions of in- and out-degrees are right-skewed.

Lima *et al.* (2014) stated that “the follow action is associated with a high cost, as following many developers results in receiving many notifications from them (...). Following links in GitHub do not play the same important role they have in other social networks, such as Facebook or Twitter”. Taking into consideration the characteristics of the two networks analyzed, we notice that even the high costs of following a person are lower than the costs of collaborating with them, which may explain the differences for example in the number of edges.

Distribution	Exponent of the fitted power-law distribution	P-value of Kolmogorov-Smirnov test
Followers-degree	2.77	0.89
Followers-out degree	2.84	0.09
Followers-in degree	2.44	0.94
Members-degree	3.05	0.30
Members-out-degree	2.72	0.11
Members-in-degree	3.09	0.42

Table 1. The results of power-law scaling behaviour examination in analyzed networks.

Both networks are characterized by low reciprocity. In case of followers graph, 9.94% of the edges are reciprocal, the remaining 90.06% are one-way. For members graph the reciprocity is even lower: only 0.48% of edges are mutual. This finding is consistent with the one reported by Lima *et al.* (2014).

We supposed, that due to the existence of very popular users, the tails of distributions of the degrees in both networks exhibit the power-law scaling behaviour. To verify this suspicion, we follow the procedure suggested by Clauset *et al.* (2009). The Table 1 summarizes the results of the conducted procedure for values from the 99 percentile of the distributions. We cannot reject the null hypothesis that the tails of the distributions are generated from the power-law distributions.

#### *Analysis of correlation*

For the analyzed networks, we found out that 213 994 out of 904 424 775 156 possible edges were indicating simultaneous following and collaboration relation. The absence of both relations occurred in 904 417 930 312 cases. This result is not suspicious: similar, sparse nature of those graphs was reported by Lima *et al.* (2014). The value of obtained Kendall tau-b coefficient was 0.06. The corresponding QAP p-value for the insignificance test was 0.00, thus the obtained result is statistically significant.

In QAP, we obtain the p-value by computing the probability that the number of common edges (or, equivalently, Pearson's or Kendall's correlation coefficient) between two graphs  $G_m$  and  $G_f$  is smaller than the number of common edges between graphs  $G_m$  and  $G_f'$ , where  $G_f'$  is obtained from  $G_f$  by permuting its vertices randomly. Usually this probability is estimated by sampling the random permutations; however, we have also used a different approach. We have computed that the number of common edges between  $G_m$  and  $G_f'$  has expected value of 13.05 and variance of 13.08, which bounds the p-value by  $3e-10$ , from Chebyshev inequality.

We also conducted auxiliary analysis of the correlation between the number of developers who forked a project repository of a particular developer and the number of developers following them. We have obtained a statistically significant value of Spearman correlation coefficient: 0.44 (p-value 0.00). This means that the more popular developers in the terms of followers tend to also have more coworkers.

## **DISCUSSION**

Our results are mostly consistent with those reported by Lima *et al.* (2014), although the networks analyzed in our study had a slightly different specification (we preserved the hierarchical relation between the owners and the members of the project repository and limited the population to the users registered in 2007-2012). We tested for the power-law existence in our data and found that the tails of the distributions of degrees in both members network and followers network exhibit power-law scaling behaviour.

Despite Lima's *et al.* (2014) suggestion that active users (in the terms of collaborating) may not have many followers, we showed that there is a statistically significant correlation in the structure of both networks and there is a positive, statistically significant correlation between the number of followers



and the number of developers collaborating with the particular developer. Our results are on the contrary to the remark that the followers and contributors networks capture different social interactions and thus their structures are different. Our result may stem from preserving the hierarchy between the owner and the members of the repository – we did not introduce the links between the members of the same repository. The findings of the conducted analysis can be seen as the generalization of the remarks obtained by Blincoc *et al.* (2016), that popularity can be a significant factor in influencing other developers on GitHub. What is more, result of the auxiliary analysis of correlation is consistent with the result mentioned by Badashian and Stroulia (2016).

Due to the power-law scaling behaviour in the followers and members networks observed in our study and Lima *et al.* (2014), we suppose that the results of this study can be generalized for the whole population of the Open Source developers using GitHub repository hosting service. However, we are aware of the possible bias of overrepresentation of “well-known” users that tended to be registered in the GitHub's early years. This is one of the major limitations of the current study. We lack the comparison with the possible “newcomers”.

We know, that our data set suffers a time bias: we are not able to collect data about the whole repository hosting service in a preferably short time. The data utilized in this study is a snapshot of the service, the exact networks may differ. However we do not find this observation a threat to the obtained results: rare random missing observations should not impact the correlation structure, which was at our interest.

## IMPLICATIONS

This study contributes to both academic research as well as industry practice. It contributes to research on Open Source development literature by putting the research in a much broader social networking context. As far as we know we are among the first to propose statistical tests and procedures based on simulations to quantitatively describe the phenomenon. The study provides insights on the correlation between the measures of influence of the developers and the cooperation among them. To practitioners, our study suggests how they can make their projects more popular and active.

## CONCLUSION

In this article we analyzed two social networks occurring in GitHub repository hosting service. The first one was denoting the following (agreement to be sent notifications about the particular user's activity) relation between developers and the second one was describing the hierarchical relation between owner of the repository and the member (a developer who collaborated with this user and thus created the innovation between them). We found the statistically significant positive correlation between the

structures of both networks. Contrary to the suggestion made by Lima *et al.* (2014), this means that the relations of following (one of the proxies of both information flow and the influence of the developers) and creating innovation by collaborating are not independent.

We have also investigated on the power-law-shape of the analyzed networks. Using the procedure from Clauset *et al.* (2009) we showed that collaboration between the owner of the project repository and their coworkers exhibits such a behaviour. In case of following network, we obtained results similar to those mentioned in Lima *et al.* (2014).

This analysis differs from the existing research in various dimensions. Firstly, we propose a different specification of the collaboration network, preserving its underlying hierarchical structure. We also limit the population of the users, to assure that they had enough time to gain popularity and collaborate with other developers. Furthermore, we apply statistical tests and procedures based on simulations to quantitatively describe the phenomenon.

The current work could contribute to gain further insight into the dynamics of the creation of innovation within GitHub repository hosting service. Since the correlation does not mean causation, another stream of analyses could provide some insights into the panel nature of the following and collaboration networks, trying to state the antecedent relation. One might also consider extending this analysis to the population from further years, to compare results obtained for probably “mature” users with possible “newcomers”.

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## INNOVATIVE ENTREPRENEURSHIP IN AN ECONOMY UNDER CRISIS: AN EMPIRICAL RESEARCH CONDUCTED IN GREECE

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### ABSTRACT

The beneficial role of entrepreneurship for an economy is multifold, as it promotes innovation, creativity and employment. Entrepreneurial innovation is acknowledged as a significant national competitive advantage and many governments worldwide adapt and adopt policies in order to stimulate it. The Greek entrepreneurial scene is struggling to follow the global start-up boom, amidst the, ongoing since 2009, economic downturn. Within an unfavorable context, Greek start-ups pursue their ventures, having to deal with unfriendly regulatory entrepreneurial conditions. The present study focuses on the analysis of innovative entrepreneurship in Greece. Such an investigation becomes quite interesting in the light of the harsh economic environment in the country. More specifically, the study attempts to: (a) map innovative entrepreneurship in Greece; (b) describe the profile of Greek entrepreneurs; (c) recognize their intentions, motives, behavior and opportunities; (d) draw conclusions that may help Greek policy makers, (e) verify the existing literature. To achieve the above targets, an online survey was conducted with the use of a structured questionnaire that was addressed both to nascent and more advanced Greek entrepreneurs. The survey investigated factors that span over the whole entrepreneurial lifecycle, as it is indicated in the related literature: (a) entrepreneurial intentions; (b) entrepreneurial motives; (c) entrepreneurial opportunities, (d) resources, actions and behavior; (e) firm performance. The empirical results provide a useful chart for nascent Greek entrepreneurs. As they reflect the views and perceptions of active entrepreneurs, they can provide useful insight to regulatory authorities, but also to non-government stakeholders of the start-up ecosystem, in order to identify areas for future improvement.

**Keywords:** *Entrepreneurship, Start-up, Entrepreneurial ecosystem, Financial crisis, Greece.*

### INTRODUCTION / AIM OF THE STUDY

Empirical research has argued that entrepreneurship brings significant social benefits: generation of new jobs, cluster formation, and long-term economic growth (e.g. Urbano and Aparicio, 2016; van Stel *et al.*, 2014). Moreover, an emphasis on innovative entrepreneurship is suggested as a driver of progress for society (Audretsch, 2013). For example, Aparicio *et al.* (2016) found that innovative entrepreneurial activity is positively associated with countries' business cycles. According to Aparicio *et al.* (2015), these results open up new avenues for future studies in order to examine innovative entrepreneurship.

Moreover, Breschi *et al.* (2014) argue that innovative entrepreneurship is central to technological change, since it gives birth to new products (or processes) and new markets. However, according to Shane (2000), technological change derives from the recognition and exploitation of opportunities. But the ability to discover such opportunities crucially depends upon prior knowledge (Breschi *et al.*, 2014). Therefore, knowledge-intensive entrepreneurship (KIE) is a cornerstone of innovative entrepreneurship.

The approach of the present study follows the various steps of the entrepreneurial lifecycle (Kibler *et al.*, 2014). The founder's personality is examined in conjunction with the surrounding environment that affects entrepreneurial decisions and actions. The selections of these dimensions is based on the intention to balance between the entrepreneur's cognitive, psychological and personality characteristics and the specific aspects of the Greek financial crisis, which is the central part of the study. The decisive factor in each step of the analysis is the underlying environmental context. The various contextual parameters, in terms of social, political and economic conditions of Greece are taken into account, in order to identify and chart the full entrepreneurial map.

The main contribution of the paper lies in its methodological approach. More specifically, it proposes a guideline for future empirical studies. It investigates factors spanning over the whole entrepreneurial lifecycle: (a) entrepreneurial intentions; (b) entrepreneurial motives; (c) entrepreneurial opportunities, (d) resources, actions and behavior; (e) firm performance. To the best of the researchers' knowledge, such an approach is not frequent in the relevant literature. Future studies may replicate the present study, further enhancing its validity and offering room for comparisons. The results of the study may be generalized in other developed countries with similar economic realities and yield interesting outcomes for practitioners in these countries.

## RESEARCH METHODOLOGY

The target population of the present study consists of individuals that reside in Greece and have a business idea that they have decided to pursue. By employing this rule, it was addressed in a broad

category of entrepreneurs, including those who have already founded a firm, as well as “nascent” entrepreneurs who have identified an opportunity and intend to become engaged in entrepreneurial activities. Moreover, the focus of the research was not the “replicative” type of entrepreneurs, rather the Schumpeterian, innovative type. Therefore, categories like retail-shop owners, or self-employed lawyers, or engineers were excluded from the survey.

A structured questionnaire was designed and used to collect the primary data needed. The questionnaire consisted of 95 questions grouped into 5 sections (Table 1) and was distributed. The five point Likert-scale was used (1=totally disagree, 5=totally agree). The questionnaire was developed in English and then, for practical reasons, it was translated into Greek. Then, it was validated by four independent scientists (from relevant fields). The final draft was used in a pilot-testing process, in which five entrepreneurs from four different companies participated.

The challenging part of the empirical research was to locate individuals that would fit the specifications described above. As it would be quite difficult to collect the data individually, the assistance of various actors of the entrepreneurial ecosystem was requested. This was necessary in order to ensure that the questionnaire will reach suitable candidates. In addition, it would maximize the effectiveness of data collection (the questionnaire would reach as many individuals possible) and, eventually, increase the response rate.

Dimensions	Factors	Supporting Literature
A. Entrepreneurial Intentions	A.1. Personality	Global Entrepreneurship Monitor, 2014; Guerrero and Urbano, 2014; Kibler et al., 2014; McClelland, 1961
	A.2. Perceived Behavioral Control	
	A.3. Social Legitimacy / Role Models	
B. Entrepreneurial Motives	B.1. Pull Motives	Cardon et al., 2013; Global Entrepreneurship Monitor, 2014
	B.2. Push Motives	
C. Entrepreneurial Opportunities	C.1. Opportunities Sources	Global Entrepreneurship Monitor, 2014; Kibler et al., 2014; Korunka et al., 2003
	C.2. Opportunities Perception	
D. Resources, actions and behavior	D.1. Human Capital	Criaco et al., 2014; Delmar and Shane, 2003; Global Entrepreneurship Monitor, 2014; Kibler et al., 2014; Korunka et al., 2003; van Gelderen et al., 2005
	D.2. Social Capital	
	D.3. Regulations / Institutions	
	D.4. Behavior	
	D.5. Actions	
E. Firm performance		Kibler et al., 2014; van Gelderen et al., 2005

Table 1. *The questionnaire of the study*

The questionnaire was sent to a number of stakeholders of the entrepreneurial ecosystem, accompanied by information regarding the purpose and scope of the survey and with the request to address it to fitted candidates. The following categories of government and private organizations were contacted: (a) Start-up and entrepreneurship associations, (b) Start-up incubators and accelerators, (c) Collaboration workspaces, (d) Innovation and entrepreneurial units of the major Greek universities, (e) Online portals and magazines dealing with start-ups and entrepreneurship, (f) Venture capitalists, (g) Online start-up communities, (h) State-supported and private initiatives for the support of entrepreneurship, (i) Non-

profit organizations aiming to support entrepreneurship. Data collection was conducted between April and June 2015. The online platform of 'Google docs' was chosen for data collection. In the end, 357 valid questionnaires were collected.

## RESULTS

### *Factor analysis*

Exploratory factor analysis was carried out to test the validity of the factors used (see Table 2). The main indicators examined are: (a) KMO test, (b) total variance explained (TVE), and (c) Cronbach's alpha. According to Malhotra (1999) and Taher *et al.* (2010), KMO must be higher than the 0,6 threshold, TVE must have values higher than 60,000 (60%), and the loadings of each variable should be bigger than 0,7. However, scores as low as 0,5 and 50%, for the KMO and TVE respectively, are considered acceptable.

The reliability of the factors was also examined by using Cronbach's alpha score. Cronbach's alpha ranges from 0 to 1, while scores higher than 0,6 mean that there is consistency and reliability in the way the factors are measured (De Vellis, 1991). The results of the factor analysis indicate that, even marginally, all the factors examined fulfill the above prerequisites.

Dimensions	Factors	KMO	TVE	Factor Loadings (min - max)	Cronbach Alpha
A. Entrepreneurial Intentions	A.1.	0,806	64,448	0,803 - 0,803	0,787
	A.2.	0,788	68,277	0,736 - 0,871	0,840
	A.3.	0,749	66,988	0,805 - 0,840	0,747
B. Entrepreneurial Motives	B.1.	0,758	71,540	0,806 - 0,806	0,897
	B.2.	0,715	70,966	0,900 - 0,925	0,679
C. Entrepreneurial Opportunities	C.1.	0,708	77,043	0,653 - 0,873	0,892
	C.2.	0,775	92,967	0,891 - 0,891	0,796
D. Resources, actions and behavior	D.1.	0,623	74,220	0,661 - 0,767	0,796
	D.2.	0,752	68,238	0,742 - 0,810	0,713
	D.3.	0,696	83,574	0,645 - 0,801	0,702
	D.4.	0,721	61,261	0,612 - 0,755	0,756
	D.5.	0,661	67,886	0,837 - 0,871	0,863
E. Firm performance		0,698	68,336	0,747 - 0,890	0,777

Table 2. *Factor Analysis*

### *Descriptive statistics: entrepreneurial intentions*

Respondents have a moderate preference towards riskier or challenging tasks that may seem impossible to others (mean = 3,38 and 3,71 respectively), avoiding at the same time extreme situations of excessive or no risk (mean = 4,17). Moreover, Greek founders express an inclination towards having control over various situations, something which is expressed by the preference for a personal, rather, than shared responsibility (mean = 3,71) and the notion that hard work outweighs luck (mean = 3,67).

The second interesting finding, which is in accordance with high devotion and self-confidence, is the relatively low fear of failure (mean=2,50). This result may seem unexpected, at first glance, since it sounds to be in contradiction with the economic context of Greece. On the other hand, the sample of the study consists of conscious entrepreneurs, which are probably aware of the dangers they are facing. Overall, these results verify previous studies regarding the (often excessive) confidence of entrepreneurs.

Moreover, empirical results verify the existence of strong family ties within Greek businesses (a characteristic of Southern European families), and also, the acceptance of the traditional role of self-employment within the context of the Greek family. On the other hand, the status of the successful entrepreneur, as perceived by society and media, is not as high as it was expected. A possible explanation is that, traditionally, the Greek model of entrepreneurship that enjoyed high status and respect was different (e.g. doctors, lawyers, engineers, etc.). The focus of the survey has been, mostly, on innovative entrepreneurship; therefore, participants did not seem to recognize the social legitimacy that once existed.

	Mean	S.D.			Mean	S.D.
Difficulty of Tasks	4,17	0,69		Practical Details	3,18	1,07
Need for Success vs. Avoidance of Failure	4,13	1,06		Control Process	3,71	0,94
Competition with others	3,83	0,95		Do Anything to Succeed	4,33	0,69
Personal vs. Shared responsibility	3,71	0,90		Fear of Failure	2,50	1,05
Uncertainty vs. Certain outcomes	3,38	1,00		Society and the role of entrepreneurship for the economy	2,87	0,98
Calculated vs. Excessive Risks	4,17	0,80		Status and Respect	3,33	1,15
Impossible Tasks	3,71	1,21		Entrepreneurship in the media	3,50	1,27
Full Life Control	3,30	1,02		Family Support	3,79	1,12
Hard Work vs. Luck	3,67	0,90		Friends' Support	3,96	0,84
Knowledge, Skills, Experience	3,79	1,05		Entrepreneurs among family/friends	3,96	1,25

Table 3. *Descriptive statistics: Entrepreneurial Intentions*

#### *Descriptive statistics: entrepreneurial motives*

Regarding “pull” motivation, the vast majority of responses scored a mean of above 4,20. It is, therefore, indicated that passion for invention and desire for independence are main traits of Greek entrepreneurs. The need for realizing personal ideas (mean = 4,79) and inspire others by these ideas (mean = 4,75) scored the highest, as well as the excitement for the process of founding a firm (mean = 4,67) and the desire for career control (mean = 4,83). On the other hand, the findings indicated that “push”, or necessity-driven motives, are not important for the sample of the study. More specifically, motives directly related to the effects of the financial crisis, like unemployment (mean = 1,83), or lay-offs (mean = 1,38) scored very low. These results were expected, since the target population of the present survey was innovative entrepreneurs, rather entrepreneurship as a whole, which would



include also the “replicative” types. Given the current economic context (high unemployment, increased level of insecurity), it is expected that “push motives” would be important, as indicated in the literature, when examining all types of entrepreneurship.

Moreover, the findings of the previous section (entrepreneurial intentions) are, further, supported by the results presented in Table 4, as the individuals expressed a high belief in their ideas and their intention to pursue their business ventures motivated by their passion for creativity. In conclusion, pull factors override push ones, despite the effects of the current financial crisis. Respondents were not forced, rather chose to start-up. They demonstrate determination in their venture, something which is evident by their unwillingness to abandon ship in case a satisfactory employment alternative emerges.

	Mean	S.D.			Mean	S.D.
Solution to a Problem	4,46	0,65		No professional alternatives	1,83	1,11
Improve services / products	4,29	1,03		Lay-off	1,38	0,57
Realize Own ideas	4,79	0,50		Secure an income	3,54	1,42
Create something from inception to actuality	4,50	0,77		Opportunity Cost	2,13	1,24
Inspire others with my ideas	4,75	0,52		Salary dissatisfaction in previous employment	2,91	1,48
Excitement for founding a firm	4,67	0,69		Lack of creativity in previous employment	2,83	1,41
Wealth	3,79	0,77		Lack of advancement opportunities in previous employment	3,04	1,07
Fame	3,00	1,42		Not feeling happy in previous employment	3,33	1,41
Success	4,63	0,70		Funding opportunity	2,83	1,50
Independency	4,75	0,52		Exploit timely the financial crisis	2,63	1,39
Career control	4,83	0,38		Exploit entrepreneurial environment	2,46	1,12
Boss of my own	4,50	0,65				

Table 4. *Descriptive statistics: Entrepreneurial Motives*

#### *Descriptive statistics: entrepreneurial opportunities*

The financial crisis, by itself, does not seem to be a source of business opportunities (mean = 2,65). On the other hand, an effect of the financial crisis (dysfunctionalities in daily life) is considered as an important motive from starting a business. At the same time, advancements in technology are highly appreciated as a source of entrepreneurial opportunities. This finding was expected, taking into account that innovative entrepreneurship extensively employs technological progress. In terms of the factors that assist in the perception and exploitation of opportunities, all three factors that are examined (education, professional experience, networking) were highly scored. Similar to previous sections, the high educational and professional level of the participants is underlined. In addition, networking, as source of opportunity identification is observed, which gives a first insight about the significance of social capital (examined in the next section).

	Mean	S.D.			Mean	S.D.
Financial Crisis	2,65	1,53		Education	3,96	1,21
Dysfunctionalities in daily life	3,39	1,44		Prior experience	4,17	0,99
Technology advancement	4,09	1,04		Interaction with other entrepreneurs	3,78	0,87

Table 5. *Descriptive statistics: Entrepreneurial Opportunities**Descriptive statistics: resources, actions and behavior*

The high level of “human capital” of the sample is highlighted in the empirical results, in terms of education and previous professional experience. On the other hand, prior managerial experience and international experience scored low, despite the traditionally high percentage of Greeks that have studied abroad. Similarly, there is low prior experience in start-up ventures, either as founder or employee, something that was expected, taking into consideration that innovation start-ups are a relatively new concept, especially in the Greek environment.

Concerning “social capital” and perceptions about social networking, respondents highly value networking with other entrepreneurs (mean = 4,38) and, in addition, they seek developing such relationships (mean = 4,63). They also recognize the importance of participating in entrepreneurial events (mean = 4,25). Stakeholders from the entrepreneurial field, like other founders or potential investors, as well as people from the friendly environment, were reported to be the primary sources of advice. Overall, the significance of the role of social capital, as reported in the literature, is highlighted from the present survey.

Despite the progress that is reported, over the last years, in governmental support, the results of the survey showed that this progress is not perceived by Greek founders. Their dissatisfaction and disapproval is extended towards the entire Greek ecosystem. A strategic plan for the promotion of entrepreneurship is not evident (mean = 1,46), and so are any financial incentives from the state (mean = 1,50). Negative opinions were also observed regarding the provision of non-financial support from the state (e.g. mentoring, advising), the steps required to start a business, and the promotion of entrepreneurship within Greek universities (mean = 2,13). Finally, in spite of the fact that an overall mobility towards creating a start-up ecosystem is observed, the start-up ecosystem as a whole is considered badly organized (mean = 1,92). A possible explanation would be that existing networks are considered immature and lacking efficiency. In conclusion, it seems that the entrepreneurial environment is not perceived to be friendly and supportive to new founders, mostly due to the lack of government initiatives.

	Mean	S.D.			Mean	S.D.
Entrepreneurial / Management courses	3,38	1,26		Steps to form a business	2,38	1,45
Relevant prior experience	4,00	1,00		Funding opportunities in Greece	2,38	1,04
Managerial experience	2,88	1,28		Funding support from financial	2,00	0,92

			institutions		
Start-up experience	2,05	1,35	Pool of investors	3,21	1,05
International experience	2,71	1,55	Funding opportunities abroad	4,21	0,82
Interaction with other entrepreneurs	4,38	0,70	Support Entrepreneur. Networks	2,79	1,20
Participation in events	4,25	0,78	Start-Up ecosystem	1,92	0,96
Founder as an acquaintance	4,63	0,64	Time spent in start-up activities	4,38	1,00
Advice from family	2,88	1,55	Effort spent in start-up activities	4,44	0,70
Advice from friends	3,42	1,16	Money spent in start-up activities	3,58	1,40
Advice from other entrepreneurs	4,04	0,98	Full-time vs. Part-time	3,29	1,63
Advice from potential investors	3,29	1,34	Information about market and competition	4,13	0,98
Advice from government institution	2,13	1,21	Business Plan	3,71	1,32
Advice from non-government institution	2,54	1,42	Domestic vs. International orientation	2,61	1,59
Strategic state plan	1,46	0,65	Discreet firm roles	3,33	1,53
Government financial incentives	1,5	0,77	Different profiles	3,42	1,39
Non-financial government support	2,13	1,14	Marketing activities	3,25	1,46
Promotion of entrepreneurship from universities	2,13	1,21			

Table 6. *Descriptive statistics: Resources, Actions and Behavior*

Moreover, the devotion the Greek entrepreneurs in their ventures is evident in terms of time (mean = 4,38), effort (mean = 4,44) and money (mean = 3,58) invested. A detailed business plan (mean = 3,71) and the collection of information about the market and the competitors (mean = 4,17) are tasks highly appreciated. Finally, attention is given to issues regarding the structure of the firm (firm roles, existence of people from different fields, marketing activities), although for many of the participants (especially for these in the early stages of their venture) these issues are, probably, not of the immediate priority.

#### *Descriptive statistics: firm performance*

The variability of the results, reflected in the mean and standard deviation scores, is justified by the wide target population of the survey, which included nascent entrepreneurs, with nothing more than a business idea and the intention to pursue it, as well as more advanced ventures that already generate profits.

	Mean	S.D.		Mean	S.D.
Seek financing	3,08	1,42	Survival in the following year	3,38	1,26
Obtained financing	2,17	1,32	Revenues	2,58	1,53
Employee(s) not in the founding team	2,96	1,76	Profit	2,46	1,33
Ready-to-market product	3,33	1,50	Partnerships	2,63	1,50
Agreements with customers	2,63	1,64			

Table 7. *Descriptive statistics: Firm performance*

*Correlation analysis*

The strongest statistical significant relationship is between the founders' behavior and the performance of the firm ( $r = 0,555$ ). Behavior, in the present study, is measured with the "investment" the founders make to support their venture, in terms of time, effort and money. The descriptive statistics showed that this investment is quite high (mean values ranging from 3,29 to 4,44). The strong positive correlation with performance seems to be a "reward" of the founders' devotion to their endeavor.

Similarly, a strong relationship ( $r = 0,384$ ) is found between activities of start-ups and firm performance. The relationship of certain start-up activities (business plan) and organizational characteristics (diversity of the founding team), has, also, been found to be linked with higher performance indicators in previous studies (Korunka et al., 2003; Delmar and Shane, 2003).

Human Capital, as expected, is also positively and significantly correlated ( $r = 0,338$ ) with firm performance. This was, also, expected and is in accordance with existing literature that places the human capital of the founder at the top decisive factors for firm success.

	A.1.	A.2.	A.3.	B.1.	B.2.	C.1.	C.2.	D.1.	D.2.	D.3.	D.4.	D.5.	E.
A.1. Personality	1,000												
A.2. Perceived Behavioral Control	0,307 0,009	1,000											
A.3. Social Legitimacy / Role Models	0,282 0,016	- 0,117 0,328	1,000										
B.1. Pull Motives	0,079 0,512	0,173 0,145	- 0,066 0,584	1,000									
B.2. Push Motives	0,188 0,113	0,212 0,073	- 0,098	0,118 0,325	1,000								

			0,411										
C.1. Opportunities Sources	0,218 0,066	0,460 0,000	- 0,042 0,729	- 0,106 0,376	0,329 0,005	1,000							
C.2. Opportunities Perception	0,349 0,003	0,341 0,003	- 0,477 0,000	0,260 0,028	- 0,104 0,384	0,162 0,173	1,000						
D.1. Human Capital	0,037 0,759	0,018 0,880	0,106 0,377	0,292 0,013	- 0,159 0,181	- 0,054 0,655	0,000 0,999	1,000					
D.2. Social Capital	0,340 0,003	0,211 0,076	0,158 0,186	0,143 0,230	0,147 0,218	0,081 0,498	0,145 0,224	- 0,414 0,000	1,000				
D.3. Regulations / Institutions	0,118 0,323	0,033 0,780	0,352 0,002	- 0,133 0,266	0,004 0,975	0,340 0,004	0,154 0,196	0,358 0,002	0,020 0,869	1,000			
D.4. Behavior	0,029 0,807	0,567 0,000	0,109 0,362	0,080 0,506	- 0,036 0,765	0,287 0,014	- 0,047 0,694	0,178 0,135	0,152 0,201	- 0,106 0,374	1,000		
D.5. Actions	0,079 0,508	0,614 0,000	0,040 0,740	- 0,058 0,626	0,300 0,010	0,487 0,000	0,096 0,424	0,062 0,605	0,159 0,181	- 0,019 0,877	0,741 0,000	1,000	
E. Firm performance	0,070 0,561	0,309 0,008	- 0,049 0,680	0,139 0,244	0,009 0,938	0,307 0,009	0,076 0,525	0,338 0,004	- 0,020 0,870	0,057 0,636	0,555 0,000	0,384 0,001	1,000

Finally, the relationship of performance with Perceived Behavioral Control ( $r = 0,309$ ) can be explained by the increased confidence of the founders, which makes them more dedicated to their work. Again, it should be noted that Perceived Behavioral Control was measured retroactively. Therefore, responds to these questions may include a form of bias.

## CONCLUSIONS

In the present study, an attempt was made in order to analyze the entrepreneurial environment in Greece. In this effort, the entrepreneurial lifecycle, proposed in the related literature, was employed. Following a thorough literature review, a questionnaire was constructed, including various factors of the entrepreneurial process, adjusted to the special characteristics of the Greek economy. Empirical data were collected using a sample of entrepreneurs residing in Greece. To ensure a high response rate, the assistance of various entrepreneurial parties in the Greek start-up ecosystem was requested (e.g. entrepreneurship units of universities and other government institutions, private start-up associations and venture capitalists). These “distribution channels” ensured that responses would be provided solely by entrepreneurs of the “Schumpeterian”, rather than the “replicative” type.

The current economic crisis had a wide impact on the entrepreneurial context of Greece. Entrepreneurship has, traditionally, been the main pillar of the Greek economy. At the same time, businesses have always been associated with self-employed professions, like lawyers or engineers, or with recurring business ideas that, mostly, targeted the domestic market. All of these businesses were largely affected when the income and, subsequently, the demand for products and services diminished, once the crisis emerged. But during the crisis, a new generation of Greek entrepreneurs emerged. This

generation is quite differentiated from the traditional trends of the past. The new businesses that are created are based on innovative, prototype ideas, and could play an important role in the revival of the Greek economy.

A first finding, from the examination of the profile characteristics of start-ups, concerns the personality of their founders. Character aspects, like the need for achievement, the risk-taking propensity and the internal locus of control, are found to be high, confirming the findings of the literature. In addition, founders have a high perception regarding their abilities to succeed in their entrepreneurial tasks. These two findings form a dominant profile of high confidence, which is a common characteristic of entrepreneurs (although, this confidence could be, merely, unexplained overconfidence, which is also a common characteristic, considering the high failure rates associated with start-ups) (Hayward, *et al.*, 2006).

A second finding concerns the motives of the people that decide to start their businesses. Although the role of unemployment is controversial for the stimulation of entrepreneurship, there are literature findings that suggest that high unemployment and recessive environments can stimulate the creation of new business ventures (Gilad and Levine, 1986; Ritsila and Tervo, 2002). However, “push” motives among Greek entrepreneurs were not found to be important. High unemployment, increased lay-offs and job dissatisfaction, were not found to be primary factors that motivated the business activity during the crisis. Moreover, the financial crisis by itself was, also, not found to directly stimulate entrepreneurial actions.

One possible explanation is that individuals that are forced to become entrepreneurs, or self-employed, out of necessity or lack of alternatives, would engage in more secure business ideas. Moreover, the target population of the study was innovative entrepreneurs, who are, generally, motivated by other types of motives. More specifically, Greek innovative entrepreneurs were found to be motivated by the so-called “pull” motivational traits. The passion for creativity, inventing and founding, or the desire for independence are dominant among Greek start-ups. The pursuit of their venture is largely associated with the belief in their skills and ideas and their ambition to succeed. Although a direct relationship of the “pull” motivation factor with firm performance was not evident in the correlation analysis, this finding is encouraging for the future success of these ventures.

The high level of human capital is another main characteristic of Greek founders, in terms of education and professional experience. A positive correlation between human capital and firm performance was established, confirming previous studies (Criaco *et al.*, 2014; Cannone and Ughetto, 2014). Despite the great outflow of young, highly educated Greeks abroad, due to the financial crisis, it is positive that the country's human capital remains high and is mobilized towards creative activities. Moreover, the

Greek founders' personality characteristic and their "pull" motives seem to be supported by their high objective educational and professional skills.

Concerning their perceptions of social capital, Greek entrepreneurs highly evaluate the importance of networking and social capital. Empirical results revealed a tendency to seek the development of social relationships with other entrepreneurs and the participation in start-up events. The importance of networking is widely acknowledged, as it provides access to important information, positive recommendations for financing, while eliminating information asymmetry (Nicolaou and Birley, 2003; Shane and Cable, 2002).

However, in order for the beneficiary role of networking and social capital to take place, certain mechanisms need to be implemented. These mechanisms constitute the entrepreneurial ecosystem. A vast disapproval of the way that the entrepreneurial ecosystem is organized in Greece is evident from the survey results. Dissatisfaction is highly observed concerning the state's support (financial or non-financial) towards new ventures. The issue of initial financing was highlighted from survey participants as the most important issue. Limited opportunities for government funding, in combination with unfavorable terms leave no other choice: use of personal financial resources or private funding.

Concerning business activity and behavior, the study reveals that Greek founders are highly committed to their ventures. This is implied by the high amount of resources they spend in their start-up tasks, despite the fact that for many, it has not yet become their primary occupation. They, also, seem to highly evaluate the employment of certain business methods (e.g. business planning) and characteristics (e.g. team profiles variability) that were empirically found to be correlated with firm performance.

In conclusion, the present study found that Greek start-ups possess many of those characteristics that have been found in the relevant literature to be strongly associated with firm success. These are: (a) strong entrepreneurial personality characteristics (need for achievement, internal locus of control, etc.), (b) strong "pull" motives in combination with absence of "necessity" or "push" motives, despite the financial crisis (Korunka *et al.*, 2003). These characteristics are combined with a high level of human capital and therefore, advanced knowledge, skills and abilities, which according to many scholars (Cressy, 1996) are considered to be the greatest competitive advantage a new firm may have. In addition, the highly skilled founders, also, understand the importance of social networking for firm success, since it is a pre-requisite for establishing extended entrepreneurial networks which can benefit start-up performance.

On the other hand, the study revealed the main obstacle for start-up founders, which is the absence of a strategic plan for the promotion of innovative entrepreneurship at a government level (or, at least, the

failure to implement such a plan). The importance of innovative entrepreneurship, as a source of national competitive advantage (Baumol, 2002), should be acknowledged by the Greek state. However, the government is unable to create a favorable regulatory framework for entrepreneurs and other stakeholders of the entrepreneurial process. In a period where the Greek economy needs restructuring, the support of innovation and entrepreneurship could be proven beneficial for national growth in the mid- and long-term.

The promotion of innovative entrepreneurship should become a primary part of the strategic economic planning of the country. The state itself should take a central role in the organization of the entrepreneurial ecosystem, by coordinating and providing financial and other incentives to stakeholders (entrepreneurs, venture capitalists and non-government support parties). In other words, the Greek state should create the necessary environment in order to persuade entrepreneurs to keep their activities and their businesses in the country, enhancing, in that way, the national economy.

#### *Research Limitations*

Data collection was conducted with the assistance of various stakeholders of the Greek start-up ecosystem. This approach was imposed by time limitations in the completion of the survey (3-month period), and was selected in order to add credibility in terms of survey participants and achieve satisfactory response rates. At the same time, however, the use of this methodology took away the control over the sample, and made the accurate calculation of response rates practically impossible. Ideally, a hybrid approach that would include the assistance of the stakeholders and a more direct contact with the survey participants, would allow the members of the research team to have more control over the sample.

Moreover, the sample of the study included ventures of various stages: from individuals that have simply identified an opportunity and were searching their way to make it happen, till advanced start-ups that had already generated profits. Although this approach does not affect the overall validity of the results, the different level of participants implies that each possesses different experiences and this, undeniably, had an impact on their responses.

#### *Recommendations for future research*

A first recommendation is to conduct a survey that will be spread more widely in time, in order to capture the complete lifecycle of the Greek start-ups that emerged during the financial crisis. In that way, more solid conclusions could be extracted regarding the relationship of various factors of the entrepreneurial process and firm performance.

At a second level, it would be of high interest to introduce the industry sector parameter in the investigation of the Greek entrepreneurial environment. In that way, useful information regarding the



orientation of the Greek entrepreneurial scene, as well as the Greek economy in general, could be extracted. The level of entrepreneurial innovation in sectors where Greece has an acknowledged competitive advantage, like agriculture and tourism, would give an insight of additional actions and measures that the state should implement in order to make full exploitation of these resources.

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## THE IMPACT OF A FINANCIAL CRISIS ON HUMAN RESOURCE MANAGEMENT AND PERFORMANCE RELATIONSHIP

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### ABSTRACT

The paper explores the human resources practices and organisational performance relationship through a longitudinal study. It evolves and explores a circular framework for the relationship in a longitudinal context so as to help address the question of the direction of causality in the link. In addition, it places the relationship in a recession context and examines the impact of crisis on it, on its strength and existence by observing and assessing patterns of change. Its main findings show that interestingly no clear causality is supported in any direction. Even more, that any relationship between human resource management practices and organisational performance seems to diminish in strength when in crisis.

**Keywords:** *HRM and organisational performance relationship, longitudinal, financial crisis, recession*

### INTRODUCTION

In an era characterised by fast changes in the economic, political, social and environmental scene, by globalization and by a great number of technological advancements, organisations seek to find factors contributing to their heterogeneity and growth so as to differentiate and remain present in the local and global arena in the long run. Because of this dynamic environment, firms do not simply have to adjust or renew their goals, strategies, policies and practices, but they also need to possess a competitive advantage towards their competitors (Chan et al., 2004). Therefore, they should focus on these business systems, functions and practices, through which firms will achieve their goals, maintain or even extend their market share, differentiate from their competitors and build a strong sustainable competitive advantage (Porter, 1998).

Researchers have claimed that the most likely resource to create a sustainable competitive advantage for a firm is its human capital and the way it is managed (Pfeffer, 1998; Barney et al., 2001). An aspect reinforced by Wright et al. (2001) who stated that what firms actually need, are valuable, unique or rare and difficult to imitate or substitute resources. Namely, bundles of tangible and intangible assets,

such as skills, knowledge, processes, policies, everyday routine and information, that contributed to improved organisational performance.

Successful firms have always considered their human capital to be their most valuable asset, as people's skills, capabilities, knowledge and working attitudes are quite dynamic and easy to develop and change (Boxall et al., 2011). However, the key to long-term organisational success seems to be the good execution of its strategies and thus the management of employees (Andersen, 2011).

Thus, HRM can play an important role in an organisation's performance, survival and success. In this context the link and the impact of HRM to Organisational Performance (OP), has been increasingly studied in the past few decades by academics, and it has been considered by many as the "Holy Grail of HRM". A growing number of studies provide consistent evidence of a positive association between HRM and OP - which exists (though less stronger) even in crisis times - proving again the need for well managed human resources in an organisation in order to achieve success (Paauwe et al., 2013).

In the literature so far, there are competing perspectives concerning the HRM-OP relationship, confirming the need for longitudinal research in the field. The aim of this study is to shed light to the HRM-OP relationship in the context of recession. More specifically, using longitudinal data, it tests the direction of causality in this relationship (forward and reverse). Second, it examines the impact of the economic crisis on the strength of the relationship between HRM and OP. Third, it looks at the effect of the crisis on HRM practices. A new developed analytic framework, a circular model of causality, including both forward and reverse impact, and even a bilateral one, (supplementing previous studies), is proposed in this study, contributing to the formation of a causality theory as that was suggested by Guest (2011). Furthermore, it supports the view that "OP can be both a determinant and an outcome of organisational behaviour" (March and Sutton, 1997) and more specifically of HRM.

## **HRM AND OP AN OVERVIEW**

The interest in the study of HRM – OP relationship stems from the attempt to prove that HRM and in particular good HRM, actually adds value to organisations (Paauwe et al., 2013). Since 1980s, a growing number of studies attempted to examine this relationship and develop a solid and consistent theory for it (Jiang et al., 2012).

Using a great variety of HRM practices and performance measures and sometimes different definitions of HRM and OP, researchers focused mainly on attempting to explore how the two are linked. Some of them find that a set/bundle of the so called 'best HRM practices', when applied, leads to increased OP (universalistic approach) (Kohan and Osterman, 1994). Others claim that different HR practices should be applied in different organisations so as to achieve high OP (contingency approach)

(Arthur, 1994). There is also the configurational or 'fit' approach adopted by many scholars, which states that when the HRM practices fit the organisational or business strategy then enhanced performance is achieved (Becker and Gerhard, 1996). All these past studies, using a wide variety of HRM practices and OP outcomes (proximal or distal ones), and carried out in different levels and industries, managed to demonstrate that a positive association exists among HRM practices and OP (Boselie et al., 2005; Combs et al., 2006).

Being mostly cross-sectional in their nature and using mainly post-predictive designs, past studies assume that the direction of the impact in the HRM – OP relationship is essentially driven from HRM practices to OP, and that it is usually mediated by factors such as employee attitudes and employee outcomes (Bakshi et al., 2014). This type of study limits the ability to explore all the spectrum of variables involved in the HRM-OP, how they impact on it and in what direction this impact is established (Jiang et al., 2012). Moreover, cross-sectional studies do not allow for the determination of causality in the relationship and its direction (Guest et al., 2003).

More recent studies and meta-analysis in the area favour both the view that HRM practices lead to higher OP (forward causality), and the view that high performing firms tend to use more HRM practices (reverse causality) (van de Voorde et al., 2011). Several methodological (survey design, methods of data collection, response bias, statistical analysis errors and bias) and theoretical issues (definitions, choice of HRM and OP measures) in previous studies might have led to misleading or incomplete results. Overall, the nature of these studies allows for limited ability to determine causality between HRM practices and organisational performance. In order to establish the direction of causality in the HRM-OP relationship longitudinal research designs are needed (Wright et al., 2003). Several researchers have tried to investigate the possibility of reverse causality in the relationship, however without the use of full longitudinal designs (Guest et al., 2003; Wright et al., 2003). They have examined the strength of the association between HRM and OP and have also controlled for past organisational performance. Forward association has been proved, but not the reverse causality case. Other researchers (Schneider et al., 2003) have concluded that reverse causation exists in the HRM-OP relationship, by proving the impact of OP on employee attitudes, but not that of employee attitudes on HRM; and they highlighted the possibility of a full reverse causation or even a bilateral/reciprocal one. Regardless of the different approaches adopted in these studies, a confusion and lack of clarity still exists concerning the causal order of the relationship and the mediating variables influencing it (Gerhart, 2005; Katou, 2008). It still remains unclear "what causes what", namely the causal order of variables involved in what is called by several authors the "black box" of the HRM-firm performance relationship (Katou and Budhwar, 2010). Hence the direction of causality still remains to be clarified; is it forward, reverse or reciprocal? It should be explained if the high performance and effectiveness of

successful and competitive firms stands as the return on investment on managing firm's human capital or if it forms the source for this investment. Therefore, there is still a need for longitudinal research that provides the opportunity, for a more rigorous analysis of the causal relationship between HRM and OP. At this point the present study, by using longitudinal data, aims to focus and contribute in the literature by answering whether the assumption that enhanced organisational performance results in the adoption and implementation of more HRM practices across an organisation, holds some truth, changing the up-to-now view of the relationship.

## HRM AND RECESSION

The role of HRM has always been to maintain a balance between employers' and employees' interest. It should be taken into account though that, crises and recession periods represent a shock for HRM regarding its operation (Zagelmeyer and Gollan, 2012). HRM has to face instability, inequality, insecurity and deregulation. A recession changes the priorities of both the employers and the employees. Therefore, the whole business model has to change, and HRM has still to keep the aforementioned balance, between employees and employers under the new circumstances, while at the same time helping the achievement of positive outcomes (financial and non-financial). Especially nowadays, in the era of globalisation, when a great number of firms operating in a country are multinationals, HRM has to face national and global forces and to manage its global workforce (Sheehan and Sparrow, 2012). This makes its role even more demanding and viable to more external shocks. During crisis HRM plays a more important role than it used to do during prosperity periods (Patro, 2013). Many times HRM's previous role has to be redefined, and priorities have to be rearranged; HRM policies have to change, but with the same outcomes. Keeping the necessary balance in the organisation during a crisis will result in effective operation and positive outcomes for the HRM function (Nilakant et al., 2013).

It seems though, that most of the firms react having a short, rather than a long term view – which is to recover and become even stronger and more competitive in the future. Crisis should also be seen as an opportunity for a necessary and fruitful change. For this reason, HRM function has been put to the forefront, as during crisis, it is responsible for holding the organisation together so as to maintain its effectiveness and sustainability, and become even stronger in the future (Verma, 2012).

Thus, stemming from the above discussion on HRM practices and OP link during crisis, it would be interesting to examine this link once more in a country severely hit by crisis, such as Greece. We examine the following

**Research question:** *“What happens in the relationship of HRM and organisational performance during crisis?”*

**Sub-research questions:** “Does the HRM-OP relationship remains effective and which direction of causality is stronger in it?

*Do firms reduce maintain or even increase investment in human capital?”*

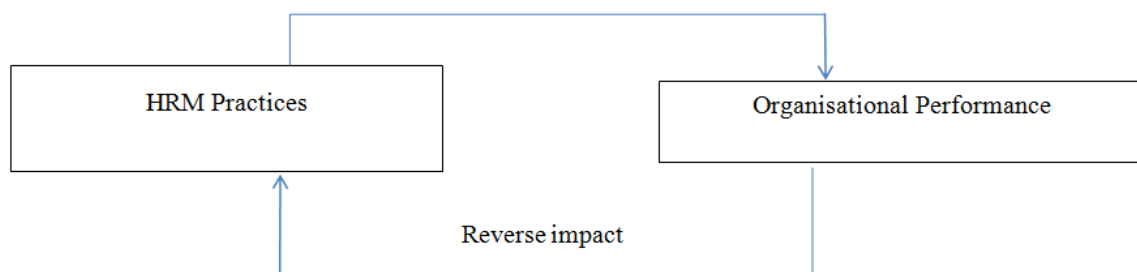
### Hypotheses

(H1) *The impact of crisis has diminished the strength of the relationship between HRM practices and performance.*

(H2) *During crisis firms reduce HRM practices as being an expensive asset and as a standard reaction of cutting back? OR*

(H3) *During crisis firms consolidate, refocus and maintain or even increase investment in human capital to ensure they are in a stronger position to ride the crisis and emerge stronger?*

Figure 1: Research Framework



## METHODOLOGY

### Sample-Procedure

Hypotheses were tested by performing a longitudinal survey. The secondary data we used was the Greek data of the CRANET (Cranfield Network)survey, from rounds 2004 and 2008. (For more details on the CRANET Survey see the Cranfield’s project official website). First, we identified the firms that have participated in both survey rounds (2004 and 2008)in order to invite them in a third round conducted in 2012, with a new improved and reduced questionnaire (using a convenience sample). These organisations have been in total 73 (local and foreign) and they have been dispersed across all sectors of operations. For the purpose of the present paper, we focus only on 2008 and 2012 data, as this is the crisis period of interest. The respondents have been either HRM managers or HRM specialists or CEOs of the organisations in the sample, as they have been considered the most suitable ones and with better knowledge on HRM issues. Plus, they have also been the respondents in previous CRANET surveys.

The web-based survey questionnaire was developed in English and then translated and administered to Greek. The response rate for 2012, concerning the longitudinal panel dataset, reached 78% (with those firms that did not reply having either closed down, or merged with other firms in our sample mainly; only 6 have denied to re-participate in the survey).

#### *Measures*

The questionnaire administered incorporated the majority of the HRM practices used in past studies in the literature. The questionnaire is a combination of the questionnaire of CRANET for Greece and the questionnaire used by Guest et al. (2003) in their study. Where the emphasis has been put on causality and therefore on longitudinal data, only specific questions from the CRANET questionnaire have been used in our analysis. However, no scales have been combined for the purposes of the present study. The final questionnaire comprised of six parts, following the CRANET questionnaire divisions (namely HR department role, Recruitment and Selection, Training and Development, Rewards and Pay, Communication, Work Council and Trade Unions, Organisational data). In total the questionnaire has fifty (50) items, including Likert scale type questions, text entry and multiple choice questions.

However, for the purpose of the present study only those items that have been successfully used and related to organisational performance in previous studies have been used for the longitudinal analysis (10 questions – 9 measures). An adequate number, as most of the studies in the HRM-OP relationship field have used between two and thirteen practices, with a mean of five or six (Combs et al., 2006). More precisely the measures for HRM practices focus on a) recruitment, b) selection, c) flexibility, d) appraisal, e) training, f) career development, g) pay and benefits, h) work council and j) communication.

Following the logic of Jiang et al. (2012) that an additive measure of HRM practices, rather than individual practices or a system, is preferable, an additive measure/variable from the above mentioned HRM practices has been created. In order to arrive to a “Total HRM Practices Score”, the items in HRM practices categories have been scored and standardized (with a minimum of zero (0) and a maximum of one (1)). Then, all the individual firms’ scores (minimum 0 to 9 maximum) have been added up, so as to arrive to a total aggregated score for each specific year.

As for organisational performance, those are mainly financial performance indicators and labour productivity indicators. Namely, based on previous studies (Wright et al., 2003; Guest et al., 2003; Katou, 2013), as well as, on the financial data available through the ICAP (private institution for data collection) directory, we collected data on a) earnings before losses and taxes, b) gross profit margin, c) net profit margin, d) expenses, e) total assets, f) return on equity (ROE), g) sales, j) sales per employee and h) profit per employee (as labour productivity measure). However, due to inter-correlations



found, only some of them have been used for the exploration of HRM-OP link. Personnel data have been collected so as to calculate the productivity measures. Common method bias has been highly avoided, by using different sources for HRM and organisational performance data, and thus correlations between HRM and OP variables due to the same respondent has been avoided.

## RESULTS

Taking into consideration that our data are longitudinal, we have to acknowledge that from one time period to another we might have attrition of the data, either due to dropouts or due to non-existence anymore of the item. Especially, in Greece, that has been hit by a severe economic crisis since 2008, we have to acknowledge that some firms of our initial sample might have either closed down, or undergone mergers and acquisitions. To avoid having a great level of attrition, for the first two rounds of the survey we have included in our study only those organisations that have participated in both rounds (2004 and 2008) of the CRANET project. Initially the firms were 73. However, since some of them do not publish their financial data, 64 were used to run the analysis for 2008. But since for 17 of them no personnel data were available, 45 companies were finally used, for our full longitudinal analysis, in order to include also the productivity indicator in our study. As far as HRM practices data are concerned no missing data/items have been detected for any of 2008 and 2012.

### *Changes of HRM practices, personnel size and productivity rates – Recession impact*

As it was expected, HRM practices total score has decreased by almost 1.3 points, from 2008 to 2012 (table 1). Taking into consideration the fact that Greece was hit by crisis in 2008, this decreased could be justifiable. From a more in depth analysis, it appears that 84.8% of firms in the sample have decreased their investment in HRM practices, 10.9% have invested almost the same amount (+/- 0.5) and only 4.3% have increased their total investment.

	N	Minimum	Maximum	Mean	Std. Deviation
TotalHRscore_2012	45	,29	8,24	2,1064	1,86650
TotalHRscore_2008	45	1,33	6,55	3,4177	1,20260
Valid N (listwise)	45				

Table 1: *Total HRM practices score change*

### *Examining the relationship of HRM practices and organizational performance*

Testing for the reverse impact, from OP of 2005, 2006 and 2007 on HRM practices of 2008 (table 2), it appears that the correlations are significant as for ROE, across all three years. For the year 2005 the impact is significant, even in 0.01 level of significance. Whereas for 2006 and 2007, the correlation would most probably be significant in a larger sample as it now appears significant at 0,10 level of significance. Thus, it seems that the impact of ROE in this case needed 3 years to materialise. As for the rest OP indicators, the strength of their association to HRM practices in 2008 decreases as the time

lag shortens. Overall no significant impact exists from OP on HRM practices.

Measures/Years	1	2	3	4	5	6	7	8	9	10	11	12	13
1.NET PROFIT MARGIN 2005	1												
2.NET PROFIT MARGIN 2006	,900**1												
3.NET PROFIT MARGIN 2007	,222	,589**1											
4.ROE 2005	,085	,114	,178	1									
5.ROE 2006	-,012	,248	,555**	,639**1									
6.ROE 2007	-,045	,163	,608**	,659**	,931**1								
7.SALES 2005	-,062	-,073	-,003	-,070	-,100	-,109	1						
8.SALES 2006	-,067	-,114	-,121	-,030	-,102	-,109	,443**1						
9.SALES 2007	-,068	-,115	-,128	-,034	-,105	-,130	,555**	,988**1					
10.SALES.PER.EMPLOYEE.2005	-,022	,020	,151	-,103	-,129	-,167	,611**	,305*	,382*1				
11.SALES PER EMPLOYEE 2006	-,068	-,084	-,079	,014	,006	-,005	-,046	,230	,211	,332*1			
12.SALES PER EMPLOYEE 2007	-,062	-,087	-,081	,028	-,005	-,010	-,036	,224	,208	,338*	,997**1		
13.TOTAL HR.SCORE 2008	-,076	-,090	,024	,489**	,261+	,274+	-,216	-,078	-,091	-,124	-,037	-,078	1

\*. Correlation is significant at the 0.05 level (2-tailed).  
 \*\*. Correlation is significant at the 0.01 level (2-tailed).  
 +. Correlation is significant at the 0.10 level (2-tailed).

Table 2:Correlations of OP indicators of 2005-2006-2007 with afterwards HRM practices in 2008

Examining the forward relationship (table 3), we identify no possible correlation between HRM practices in 2008 and OP afterwards in 2009, 2010 and 2011. Therefore, the forward association of HRM to OP is not verified. Furthermore, it can be observed that the strength of the association between sales and HRM practices, and between sales per employee and HRM practices decreased as the time lag shortens.

Measures/Years	1	2	3	4	5	6	7	8	9	10	11	12	13
1.TOTAL HR.SCORE 2008	1												
2.NET PROFIT.MARGIN 2009	-,145	1											
3.NET PROFIT.MARGIN 2010	,023	,609**	1										
4.NET PROFIT.MARGIN 2011	,151	,249	,796**	1									
5.ROE 2009	-,209	,435**	,371*	,238	1								
6.ROE 2010	-,151	,601**	,582**	,330*	,877**	1							
7.ROE 2011	-,177	,199	,364*	,428*	,460**	,565**	1						
8.SALES 2009	,070	,100	,044	,044	-,033	,006	,004	1					
9.SALES 2010	,152	-,033	,058	,059	-,137	-,082	-,265+	,234	1				
10.SALES 2011	,166	,038	,065	,066	-,118	-,052	-,160	,723**	,837**	1			
11.SALES.PER.EMPLOYEE.09	-,179	,015	,145	,163	-,018	,013	,096	,477**	,535**	,535*1			
12.SALES.PER.EMPLOYEE.10	-,060	-,056	,052	,065	-,025	,014	,090	,153	,166	,160	,043	1	
13.SALES.PER.EMPLOYEE.11	,028	-,018	,125	,157	,076	,042	,294+	-,541**	-,414**	-,377*	-,040	,024	1

\*\*. Correlation is significant at the 0.01 level (2-tailed).  
 \*. Correlation is significant at the 0.05 level (2-tailed).  
 +. Correlation is significant at the 0.10 level (2-tailed).

Table 3:Correlations of HRM practices in 2008with afterwards OP indicators for 2009-2010-2011

*The HRM-OP relationship under the impact of economic crisis*

In this section, the impact of recession on HRM practices and on their relationship with organisational performance is explored. The first and most apparent impact of the crisis is that a number of organisations have ceased operations or have merged with other firms (local or foreign ones). Therefore, the sample of 45 for the year 2012 has decreased to 36. (It should be mentioned that the firms that have participated in the 2012 survey were 57, out of the initial 73 sample of CRANET project). However, following again the same elimination procedure (excluding firms with no performance or personnel data available) the final sample of 36 firms was reached for 2012 analysis.

As far as the relationship between HRM practices and organizational performance is concerned first and foremost the reverse case (from OP indicators to HRM practices) is concerned, by exploring the correlation of OP in 2009, 2010 and 2011 with the HRM practices in 2012 (table 4). It seems, that apart from the correlation of sales per employee in 2009 with HRM practices in 2012 (three years' time-lag), no other significant correlation is observed. Compared to the reverse case scenario with HRM data in 2008, the significant correlation of sales per employee in 2009 with HRM practices is considerably higher. When it comes to HRM practices in 2012, and in the similar table/correlation matrix for that year the significant correlations between ROE (2009, 2010 and 2011) disappear in 2012. Therefore, it seems to be no relationship of financial performance indicators with HRM practices during recession, whereas when productivity measures are taken into account it seems to be verified (but only when there is enough time-lag for performance indicators to materialize, as for example 3 years).

Measures/Years	1	2	3	4	5	6	7	8	9	10	11	12	13
1.NET PROFIT.MARGIN 2009	1												
2.NET PROFIT.MARGIN 2010	,597**	1											
3.NET PROFIT.MARGIN 2011	,250	,817**	1										
4.ROE 2009	,436**	,376*	,243	1									
5.ROE 2010	,603**	,583**	,339	,877**	1								
6.ROE 2011	,197	,365*	,425*	,480**	,581**	1							
7.SALES 2009	,097	,036	,048	-,042	-,003	,011	1						
8.SALES 2010	-,043	,047	,061	-,150	-,095	-,260	,225	1					
9.SALES 2011	,028	,053	,070	-,132	-,068	-,153	,720**	,834**	1				
10.SALES.PER.EMPLOYEE2009	-,004	,132	,173	-,038	,003	,121	,475**	,538**	,538**	1			
11.SALES.PER.EMPLOYEE2010	-,063	,044	,071	-,035	,004	,098	,143	,157	,149	,036	1		
12.SALES.PER.EMPLOYEE2011	-,034	,108	,157	,084	,050	,291	-,538**	-,408*	-,372*	-,035	,030	1	
13.TOTAL.HRSCORE2012	-,002	-,009	-,010	,053	,058	,104	-,069	-,071	-,099	,618**	,000	,043	1
**. Correlation is significant at the 0.01 level (2-tailed).													
*. Correlation is significant at the 0.05 level (2-tailed).													
+. Correlation is significant at the 0.10 level (2-tailed).													

Table 4: Correlation of OP indicators 2009-2010-2011 and HRM practices 2012

From the above analysis, no significant association has been found, not even the forward one: from HRM practices to organizational performance, nor the reverse one: from organizational performance to HRM practices. Concerning the longitudinal analysis of the data, once more in their majority correlations between HRM practices and OP have been insignificant. There have been only a few OP indicators which have correlated significantly with HRM practices, mostly when the reverse causation has been the case. In the reverse causation case there have been more significant correlations than in the forward one. As for the impact of the crisis (contextual factor), it seems that hypothesis for the reduced HRM practices holds true, as the total HR score has dropped since 2008, with a slight increase from the dropped figure of 2011 to 2012. Concerning the negative impact of the recession on the HRM practices-OP relationship, the strength of the relationship seems to diminish compared to previous years correlations (HRM 2008) and thus hypothesis H1 is confirmed as well. Concerning hypothesis H3, it can be said it holds true only for a very small number of firms being mainly foreign and in the merchandising sector.

As for the strength of the relationship, whether it increases or decreases it is again subject to the specific organizational performance indicator examined each time.

## DISCUSSION

The present study has examined the relationship between HRM practices and organizational performance and its strength, using a longitudinal research design. The results of the study failed to confirm the existence of both forward and reverse causation in the HRM-OP. There have been only a few exceptions. This contradicts previous studies on the forward association of HRM practices and organisational performance, such as those of Gerhart, (2005), Katou, (2008) and Wright et al., (2003). It also contradicts the findings of the study of Katou and Budhwar (2010) and Katou (2008), who verified the forward association in Greece. A reason for the difference in results about Greece, might be the fact that Katou's previous studies have focused mainly on manufacturing industry and on SMEs, while the present study has examined the relationship of HRM and OP across all industries and in large firms. So, the forward relationship might be confirmed for small (SMEs) firms and in specific industry, in Greece. A reason for this might be the different way business and HRM systems are applied in small-medium and large firms (Guthrie, 2001).

From the two cases of direction of causation in the HRM-OP relationship, reverse causation has more cases (seven) of significant correlations among OP measures and HRM practices compared to the forward scenario from HRM to OP indicators (one). It should be also noted that from all the OP indicators used in the study, the productivity index (sales per employee) and return on investment (ROE) have been the ones with the significant correlations in the reverse case scenario (when the

impact is driven from OP to HRM practices). As for the productivity index (sales per employee) this might have come up as a result, since it is more directly related to human capital and to HRM, than financial indicators. As for ROE, one can speculate that the financial indices, not merely profitability indices, seem to be more related to HRM practices. A repetition of the study with less financial measures and more productivity or HR related measures might identify even more and stronger (significant) associations; a case suggested also by Guest (2003 and 2011).

The analysis of the data showed that firms tend to reduce HRM practices during crisis (thus H3a has been confirmed). The total HR score in 2012 decreased compared to 2008. However, the crisis seems to have played an important role, since the standard deviation has been double in 2012 compared to 2008, meaning that some of the firms have cut a lot on their HRM. This finding is in accordance with previous studies' findings (Philippakos, 2009; Sjoka, 2012), which indicate that HR department during crisis periods loses a lot of its tasks (cataclysmic effect-decimate HRM. Namely, the crisis results in the reduction of HRM practices, for firms to survive (Shen and D'Netto, 2012; Sjoka, 2012).

Therefore, the study's findings on HRM practices imply that firms in Greece seem to adopt a short-term view, which is justifiable by the cultural context in Greece (Myloni, 2002). This is a common characteristic for countries being part of the South/East cluster in Europe.

As far as the impact of the recession on HRM practices and organisational performance relationship is concerned, it seems that the strength diminishes during an economic crisis period. It seems that the view of Shin and Konrad (2014) also holds true for the present study, namely a downwards spiral appears, affecting negatively both HRM and organisational performance. Especially for the case of Greece, the present study's findings verify the findings of the study of Katou (2012 and 2013), which was also conducted in Greece, and found that the HRM-OP link losses in strength during crisis. Thus, it appears that the strength of the relationship diminishes in recession periods, no matter the size or the industry.

## CONCLUSIONS - IMPLICATIONS

The present study has several significant contributions for academics as well as for practitioners.

The study adds to the field of HRM and especially in the area of HRM-OP link. From a theoretical perspective the study contributes in the appreciation of the HRM-OP relationship as it examines changes over time and during different economic cycles and especially during recession. No other study in the field examines the relationship during recession, for such a long time (Katou, 2013; Paauwe and Boselie, 2005). The study shows that investment on HRM practices is affected during recession and usually decreased, with a few exceptions mainly from the manufacturing sector.

It contributes in understanding the strength of the effect of HRM on organizational performance (and the opposite) depending on the time-lag (when the strongest effect exists and how it evolves over the years and how long it persists). The main implication of the study is that it adds value to the HRM-OP link by clarifying causality and by using longitudinal data for this.

The present study also extends the body of knowledge by testing the relationship in a non US/UK context, but in a southeastern European one, in Greece, where few previous studies have focused (but in small samples and for less years) (Katou, 2013; Papalexandris et al., 2002). Thus, it adds to 'HRM in Greece' limited literature (Philippakos, 2009).

The present study, also, helps practitioners and HRM managers to understand the HRM and organizational performance theory and develop analytical skills, so as to apply the theory and the findings of this study in specific situations, according always to circumstances, and shape their own HRM policies and strategies and apply situational HRM. It also helps firms in Greece (and potential entries in the Greek market), to perform more effectively by considering the new knowledge about how HRM-OP relationship works in Greece. Our results can be used as a tool by managers for a better decision making and use of firm's resources and a more efficient implementation of HRM practices.

Overall, the present study has produced a set of interesting and novel findings regarding the HRM and organizational relationship, either by verifying or contradicting previous findings. It has also improved our understanding of HRM in Greece. It has been the first longitudinal study in the field of HRM and organizational performance relationship examining time-lags up to three years (before and after the introduction of HRM practices), the first in Greece focusing on large firms, and the first longitudinal study addressing HRM and the HRM-OP over a crisis period. The findings of this study have paved the way for future research along its lines, not only in Greece, but also in other countries.

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## THE CORRELATION BETWEEN VOLATILITY AND VOLUNTARY DISCLOSURE OF FIRMS IN A MULTISTAKEHOLDER APPROACH.

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### ABSTRACT

**Purpose:** Firstly, the aim of our paper is to analyze the relationship between the volatility business industries, measured by standard deviation, and the level of disclosure with reference to the many corporate stakeholders of a representative sample of listed companies.

In particular, we have verified the disclosure about the following stakeholders: customers, suppliers, competitors, institutions, environment, community, human capital and corporate governance and financial lenders.

For each stakeholder, we have selected a list of disclosure items and we determined an index comparing the number of items disclosed by the company to the maximum number of items identified.

Secondly, we tried to highlight the trend over time of the stakeholders' related disclosure, with reference to the years 2006, 2009 and 2012.

**Design/methodology/approach:** As for the first contribute (analyzing the level of disclosure with reference to the eight corporate stakeholders of listed companies), unlike previous works put in the mainflow "voluntary disclosure literature". Moreover, our study does not dwell only on the analysis of mandatory annual documents but on all corporate documents: annual and consolidated financial statements, management, sustainability and corporate governance reports.

**Originality/value:** To our knowledge, this is the first study that compute all the stakeholders identified at the same time, by following the "broad" approach of the Stakeholder Theory, that identifies a large number of corporate stakeholders.

**Keywords:** *Risk, Stakeholder theory, company disclosure, listed company.*

## 1 INTRODUCTION

The present study aims to verify the relationship between volatility (Campbell et al., 2001) and voluntary disclosure with reference to Italian companies, in a multi-stakeholder perspective. Economic theory suggests a number of reasons why an increase in disclosure should reduce stock volatility. First, a commonly cited benefit of disclosure is that by mitigating uncertainty, disclosure may reduce the magnitude of the impact of news about a firm's performance, which would reduce stock price volatility (Lang and Lundholm 1993; Bushee and Noe 2000). Second, simple theories of market microstructure theory suggest that by increasing the amount of public information, disclosure is likely to reduce information asymmetries in the market that result in pronounced price changes in response to changes in demand for the stock (Diamond and Verrecchia 1991).

There are various factors which influence stock price volatility. Previous research documented that disclosure (Titas Rudra 2010), firm's size, (Chang & Dong 2006) debt-equity, (Bushee & Noe 2000) book to market value (Kothari 2009), return on net worth, (Rubin & Smith 2009) firm's age, (Rubin & Smith 2009) and trading volume (Eric Girard, Mohammed Omran 2009) influence stock price volatility. Of all the factors disclosures play a key role on volatility. A full disclosure of information avoids confusion and helps investors to take decisions. Ambiguity in information or no information often leads to decisions which may not prove to be correct.

Research interest in the field of voluntary disclosure dates back to the early 1970s, stemming from the debate between social responsibility and social accounting (Gray and Stone, 1994; Azzone *et al.*, 1996).

The literature in the field of voluntary disclosure, although plentiful and varied, has never used a multi-stakeholder approach. Previous researches do not provide a quantitative analyzing of the disclosure about the different categories of stakeholders.

Firstly, the aim of our paper is to analyze the level of disclosure with reference to the many corporate stakeholders of a representative sample of listed companies. To this aim, for each company, we have built a specific disclosure index for every stakeholders selected and then we have estimated a general disclosure index.

The first contribution provided by our work is to realize, for the first time on the basis of our knowledge, a specific quantitative analysis on voluntary disclosure in Italian firms. With reference to Italy, does not exist in the literature any quantitative research that has studied the voluntary disclosure in such a wide period and for all the non-financial companies listed in Milan Stock Exchange.

Moreover (second contribution), unlike previous researches, put in the mainflow "voluntary disclosure literature", our study has extended this analysis to all the informative documents of the

entities. For this purpose, we have analyzed the individual, the consolidated financial reports (with a specific reference to the supplementary notes and notes to the financial annual report), the report on management, the sustainability report and the report on corporate governance, if present.

The remainder of the paper is structured as follows. In paragraph 2 is placed the literature review of voluntary disclosure and stakeholder theory. The paragraph 3 describes the research design, with the sample selection and the estimation of disclosure indicators. In paragraph 4 we will analyse the determinants that affect the volatility of business industry. Next, we will specify the sample examined and the methods of calculating the volatility, including defining the explanatory variables and presenting the econometric model (estimation and model data). We will then provide the results obtained in descriptive terms in terms of bivariate and multivariate analysis. Finally, the last paragraph includes the conclusions.

## **2 STAKEHOLDER THEORY AND VOLUNTARY DISCLOSURE: LITERATURE REVIEW**

Research interest in the field of voluntary disclosure dates back to the early 1970s and is still growing. Voluntary disclosure concerns all non financial information, relate to social, environmental and governance issues. The literature in the field of voluntary disclosure, although plentiful and varied, has never used a multi-stakeholder approach. Prior researches examined the total voluntary disclosure in different countries (Nuova Zelanda, Messico, Nigeria, Svezia, Giappone, Malaysia, Spagna, Svizzera, Regno Unito, USA, Repubblica Ceca, Francia, Cina, Giordania, Italia, Kenia, Canada, Qatar), without a multistakeholder perspective. According to legitimacy theory, the literature has shown that voluntary disclosure is an important tool of legitimacy (Schipper, 1991; Roberts, 1992; Degan *et al*, 2002; Cho, C.H. and Patten, D.M. 2007; Dumay *et al*, 2015). Indeed, there is a positive relationship between the level of voluntary disclosure and firm size: large companies tend to provide more information in order to meet the needs of its stakeholders and gain greater social legitimacy.

As we said, the aim of our paper is to build a disclosure index that describes the nature, quality and extent of the information provided by each company in the sample with respect to each class of stakeholders. About how to classify and retrieve items of the disclosure, we used a multi-stakeholder approach, integrating stakeholder categories traditionally adopted.

In literature, there are many definitions for “stakeholder”, all of which related to the concept of “interest” and “subject to whom they are addressed the attention of management”. In this paper, we use the term “stakeholder”, according to a definition now shared, for any person or group

that is considered critical recipient of the business as it affects, or is affected by, the achievement of the objectives of the business organization (Freeman, 1984).

According to Preston (1990), the stakeholder concept originated in the thirties, in the practice of analysts and managers of companies, and has developed at an academic level in the debate on “stakeholder management”. In 1932, General Electric identified its four major groups of “stakeholders”: shareholders; employees, customers and the general public. In 1947, Johnson & Johnson identified stakeholder groups “strictly business” for any company: customers, employees, managers and shareholders. In 1950 Sears identified, in order of importance and for each company, the following stakeholders: customers, employees, communities and stockholders. In 1958 Dill also considers the category of competitors. In 1963 the Stanford Research Institute summarized the following main classes of stakeholders: shareholders; employees; customers; suppliers; creditors; collectivity.

The systematization of the stakeholder theory is due to Freeman and the authors of “stakeholder management” (Donaldson and Preston, 1995). Freeman (1984) defines “stakeholders” all the actors that influence or are influenced by the company. He, summarizing the previous contributions, classifies them as follows (see also Salomon, 1993; Freeman and Reed, 1983; Williamson, 1985): shareholders and management; customers; employees; suppliers; governments; competitors; trade associations; environmentalists; community; media; any interest group (SIG - Special Interest Group). According to the author, the first four classes are defined “internal stakeholders” and others “external stakeholders”. Regardless of the distinction, the existence of stakeholders precedes the company and of its economic activity (RE Freeman, Evan WM, 1990, pp. 337-359). Subjects who matter are all those who are considered always stakeholders, regardless of the perception of the organization. Later this position, based on an ethical foundation, was partially modified by Freeman and mitigated in a paper with Evan (1990) in which he provides a more “neutral” definition of stakeholders and reduces the classes to the followings: suppliers, customers, employees, stockholders and the local community (including the management, understood as an agent of these groups).

According to the classification proposed by Clarkson (1995), it’s possible to distinguish the following categories of stakeholders (see also Donaldson and Preston, 1995, p. 69): shareholders and investors (including banks); employees; customers; suppliers; governments; community; media; trade associations; political groups; any interest group (SIG - Special Interest Group). The first six classes of stakeholders are defined as primary, because they provide inputs to businesses; the others are defined as secondary, as suffering from the business activity.

Freeman gave rise the broad stakeholder theory (broad classification of stakeholders). The maximum extension of the broad stakeholder theory includes also environment and the Earth in general as stakeholders, considered as “non-human stakeholders” (Stead and Stead, 1992; Starik, 1994; Jacobs, 1997; Phillips and Reichart, 2000; Driscoll and Starik, 2004).

On the other hand, some authors restrict the definition of stakeholders, adopting a “narrow stakeholder theory”. They consider stakeholders only those individuals who in their own business come into close contact with the company. They do not deny, that is, the existence of other interests but place them in the background compared to the former. According to Campbell and Alexander (1997) stakeholders to consider the activity of enterprise are represented by the following classes: suppliers, employees, shareholders and customers. Mahon (2002) also considers other stakeholders that are, however, outline the main stakeholders, especially governments, the media and interest groups, who can choose whether or not to make contact with the company. According this theory, if you can choose to enter or not in the sphere of business are not properly stakeholders.

*Table 1: categories of stakeholders in the literature review*

Author	Categories of Stakeholder
1932 General Electric	Shareholders, employees, customers and general public
1947 J&J	Customers, employees, managers, shareholders
1950 Sears	Customers, employees, communities and stockholders
Dill (1958)	Customers, employees, communities and stockholders, competitors
SRI (1963)	Shareholders, employees, customers, suppliers, creditors, collectivity
Freeman e Reed (1983); Freeman (1984); Freeman &Evan (1990); Salomon (1993); Williamson (1985)	Shareholders, managers, customers, employees, suppliers, government, competitors, associations; SIG - Special interest group
Freeman & Evan (1990)	Suppliers, customers, employees, stockholders, managers, local community
Clarkson (1995); Donaldson & Preston (1995)	Shareholders, investors (including banks), employees, customers, suppliers, government, communities, media, associations, political groups, SIG
Campbell & Alexsander (1997); Mahon (2002)	Suppliers, employees, shareholders, customers
Starik (1994); Jacobs (1997); Phillips & Reichart (1997); Starik (2004)	Shareholders, managers, investors, customers, employees, suppliers, government, competitors, associations, SIG, environment
Friedman (1970); Porter (1985); Tirole (2001); Jensen (2002)	Shareholders, institutional and financial investors, managers

The rejection of the theoretical foundations of Freeman, according to a narrow stakeholder management, is due to the objective function of enterprises, namely the increasing in the medium to long-term of company market value: the only people who are facing the business activity are those that are “contained” into the business, which are fundamental parts of businesses because they provided the main factors of production (capital) and because “they risk something”. In summary, according narrow stakeholder theory, stakeholder management and balancing of many interests conflicted with the aims of maximizing corporate value. Or rather, the balancing of many interests can take place if and only if it produces value primarily for business owners (Friedman, 1970; Porter, 1985; Tirole, 2001; Jensen, 2002). According to these authors, the actors that influence the company’s activities are mainly shareholders, lenders and managers (as agents of these entities), or those who have earned capital (or credit risk). Essentially stakeholders are those who risk their investment and that the shareholders and financial institutions. The following table includes a summary of those observations.

Taking up and synthesizing the above that, and adopting the broad approach, in this paper we refer to the following stakeholders:

- ☉ Customers.
- ☉ Suppliers.
- ☉ Competitors.
- ☉ Institutions: institutions are part of the public administration, political groups, trade unions, the government and the state in general.
- ☉ Environment: it is understood not only as the associations of environmental protection but as a subject recipient of the business.
- ☉ Community: we refer to the community in general, with particular reference to the community in which the activity is pursued, the associations with which it comes into contact the company and any special interest group (public utility or cultural) that each firm believes to influence or from which it is believed affected. In the present stakeholders also includes the relationships with the media.
- ☉ Human capital and Corporate Governance: as part of this class we intend to cover any person internal company activities which are mainly employees and corporate governance.
- ☉ Financial lenders: lenders intend to shareholders and those who contribute capital (typically banks and financial institutions).

### **3 RESEARCH DESIGN**

#### ***3.1 Sample selection***

We have selected a sample of firms that were listed on the Milan stock exchange on December 31,

2006, December 31, 2009 and December 31, 2012. To create the sample, we started from the total of firms listed as part of the Milan stock exchange in 2006. We then excluded firms listed after December 31, 2006 and those delisted during the period January 1, 2007 to December 31, 2012. After applying our rules, we obtained a sample of 144 firms and calculated the disclosure indicators in 2006, 2009 and 2012 for each.

### 3.2 Disclosure indicators

The disclosure index most commonly used in international studies is calculated by comparing the number of items of disclosure applied by individual companies to the total number of applicable items (Hope, 1979; Robbins and Austin, 1986; Wallace et al., 1994; Wallace and Naser, 1995; Meek et al., 1995; Cooke, 1996; Inchausti, 1997; Cammferman and Cooke, 2002).

For each stakeholder, our disclosure index is obtained by scaling a company's number of disclosure items to its total number of available items:

$$0 \leq I_j = \frac{\sum_{i=1}^n x_i}{n} \leq 1$$

The variable  $n$  is the number of items concerning the specific stakeholder;  $x_i$  is the  $i$ -element of disclosure disclosed by the  $j$ -company (elements vary from 1 to  $n$ ).

Thus, for example, if 10 elements (items) must be taken into consideration for the disclosure and company X highlights only three, the index value of disclosure for that particular company is equal to 0.3 (= 3/10).

From the above, it follows that the first step in calculating the index is to determine how many items must be disclosed. As we said, we considered 8 stakeholder, for each we have selected specific items. The number of items is different for each stakeholder as representing in the following table.

Table 2: number of items for each stakeholder

Stakeholder	N° items
Customers	15
Suppliers	9
Competitors	3
Institutions	10
Environment	31
Community	11
Human capital and corporate governance	25
Financial Lenders	22
Totale	126

The disclosure items have been found in the following documents:

- guidelines of the Global Reporting Iniziative (GRI);
- ESG guideline approved by European Federation of Financial Analysts Societies (EFFAS);
- guidelines developed under CSR-SC project, prepared by the Ministry of Labour and Social Policy at the Italian Presidency of the European Union.

This resulted in identification of 126 items that, according to the sources indicated, should be included in the various corporate documents to give more complete voluntary information about social, environment and governance issues.

We then verified the presence of the items in all documents (financial statements and consolidated financial statements, management report, sustainability report and corporate governance report) from each company.

In order to estimate the disclosure index for each stakeholder, we assigned scores to each item in relation to the quality of information present in the documents examined by distinguishing between:

- ⊙ *detailed information*: information is expressed in a clear, comprehensive and systematic way about various items of interest, a score of 1;
- ⊙ *generic information*: information is provided in an inaccurate and incomplete way about the items and as such does not allow a systematic understanding of the phenomenon, a score of 0.5;
- ⊙ *no mention*: neither qualitative nor quantitative information is available about the items, a score of 0.

In substance, for each item the minimum score assigned is equal to 0 if the item is not present, and the maximum score is equal to 1 if the item is present and described in a detailed way. With reference to the general disclosure index, the minimum score is equal to 0, if the company doesn't give any information, and the maximum score is equal to 126, if the company gives detailed information about all the items.

In literature, researches generally applied a content analysis. We didn't do a content analysis. We matched the words and sentences in the documents and identified for each text whether or not the item was mentioned. An advantage of this manual approach over a computer-aided content analysis is that humans can better judge the meaning of words and phrases within a context. A disadvantage is that a manual approach is less cost-effective and flexible. In addition, human raters can make mistakes and are prone to researcher bias (Krippendorff, 2004). To avoid reliability problems, a team of three researchers built the score. The authors defined the list of items, and three research assistants conducted the analysis on the documents. After training was provided to the assistants by the authors, a preliminary check was performed on a sample of three annual documents.



## 4 ANALYSIS.

The sample selection strategy adopted in the previous section was instrumental in the selection of a fixed sample of 144 companies listed on the Milan Stock Exchange for the years 2006, 2009 and 2012. The sample was divided into industry sectors according to the classification of the Italian Stock Exchange. The number of companies belonging to the sector and the relative percentage are shown in Table 3.

*Table 3: sample composition*

Sectors	# firms	%
<i>Auto/ Prts&amp;Equip.</i>	9	6,25%
<i>Building&amp;Construct</i>	12	8,33%
<i>Chemical</i>	3	2,08%
<i>Commerce</i>	2	1,39%
<i>Fashion and home products</i>	18	12,50%
<i>Food and beverages</i>	6	4,17%
<i>Health</i>	5	3,47%
<i>Hi-tech</i>	18	12,50%
<i>Industrial products and services</i>	29	20,14%
<i>Media</i>	10	6,94%
<i>Oil &amp; Gas</i>	7	4,86%
<i>Public Utilities</i>	11	7,64%
<i>Real Estate</i>	6	4,17%
<i>Telecommunication</i>	3	2,08%
<i>Travel and leisure</i>	5	3,47%
<b>Total</b>	<b>144</b>	<b>100,00%</b>

In this paper we want to relate the Industry volatility to a set of explanatory variables. In the remainder of this section, we will indicate which variables we have chosen for the purposes of our analysis, explaining the reasons behind this choice. In addition, for each variable choice, we will present the hypotheses that we will test in subsequent statistical analyses.

### 4.1 The dependent variable

The dependent variable is represented by stock volatility of Italian firms (standard deviation). It has been calculated using the average of the standard deviation of individual firms in a given industry. Standard deviation is calculated on firm's weekly equity returns for years 2006, 2009 and 2012.

### 4.2 The independent variables

The independent variables, at the industrial sector level, in our analysis are the following:

- ⊙ Business Industry (BI);
- ⊙ Return on Investment (ROI);
- ⊙ Unrecorded intangible assets (Q\_Tobin);
- ⊙ Leverage (Lev);
- ⊙ Size (Ln\_Assets);
- ⊙ Financial crisis (dt);
- ⊙ Disclosure index (I\_Discl).

#### **4.2.1 Business Industry**

With reference to the business industry, we adopted a binary variable that takes the value of 1 if the firm belongs to an industry sensitive to the environment and the value zero otherwise. Sectors were identified using information taken from the Borsa Italiana database. Consistent with the classification proposed by Salama et al. (2012), we considered the following sensitive sectors: energy supply, paper and pulp, extraction and mining, contracting, chemicals, aerospace and defence, steel and auto parts, medical and telecom equipment and food processing.

#### **4.2.2 Return on Investment**

Profitability was measured by the return on investment calculated by dividing operational income by capital invested (Clarkson et al., 2011; Dawkins and Fraas, 2009). It has been calculated using the average of the ROI of individual firms in a given industry.

#### **4.2.3 Unrecorded intangible assets**

The Q indicator is considered as a proxy of unrecorded intangible assets (Laitner, Stolyarov, 2003). This is defined by dividing the sum of market equity and total liabilities by total assets (Smithers, Wright, 2002). It has been calculated using the average of the Q of individual firms in a given industry.

#### **4.2.4 Leverage**

Leverage was measured using the ratio of total financial debt to total capital.

#### **4.2.5 Size**

Regarding the size of the company, in line with the main studies on the subject (Anmad et al., 2003; Brammer and Pavelin, 2008; Clarkson et al., 2008; Cormier et al., 2005; Dawkins and Fraas, 2011; Galani et al., 2011; Monteiro and Guzman, 2010; Anbumozhy and Liu, 2009; Mukherjee et al., 2010; Stanny, 2013; Wang et al., 2012; Zarzesky, 1996; Zeng et al., 2012; Zorio, 2012), we used the natural logarithm of the total assets.

#### **4.2.6 Financial crisis**

Regarding the Financial crisis, we introduced a dichotomous variable that takes the value of 0 if is the year pre-crisis (2006) on and the value of 1 if the years are 2009 and 2012.

#### **4.2.7 Disclosure Index**

The disclosure index most commonly used in international studies is calculated by comparing the number of items of disclosure applied by individual companies to the total number of applicable items (Hope, 1979; Robbins and Austin, 1986; Wallace, 1987; Wallace et al., 1994; Wallace and Naser, 1995; Meek et al., 1995; Cooke, 1996; Inchausti, 1997; Cammferman and Cooke, 2002). The peculiarity of our study is that the disclosure is examined according to a multi-stakeholder approach.

### 4.3 Descriptive statistics

Table 4 shows the main descriptive statistics for all firms calculated in the three years of the survey for the nine indices analyzed. More specifically, mean, median, minimum and maximum values, standard deviation, skewness and kurtosis were calculated.

Table 4: descriptive statistics

2006									
	BI	DEV_STD	DT	I_COM	I_COMP	I_CUST	DISCLOSUR	I_ENV	
Mean	0.266667	1.057.780	0.000000	0.037628	0.055586	0.155040	0.133109	0.046923	
Median	0.000000	0.805965	0.000000	0.010000	0.027778	0.143103	0.120370	0.011667	
Maximum	1.000.000	3.224.143	0.000000	0.210000	0.197273	0.281818	0.279040	0.239091	
Minimum	0.000000	0.149665	0.000000	0.000000	0.000000	0.065000	0.071429	0.000000	
Std. Dev.	0.457738	0.824750	0.000000	0.055668	0.066913	0.058301	0.055625	0.069116	
Skewness	1.055.290	1.485.303	NA	2.177.621	0.885139	0.581879	1.373.686	1.639.333	
Kurtosis	2.113.636	4.343.424	NA	7.240.565	2.299.483	2.721.336	4.252.349	4.924.383	
	I_FIN	I_HC_GOV	I_LIST	I_SUPPL	LEVERAGE	LNASSETS	Q_TOBIN	ROI	
Mean	0.262817	0.173499	0.121987	0.107983	2.810.377	1.448.738	3.116.252	6.411.708	
Median	0.252222	0.165000	0.115556	0.106667	2.698.706	1.418.105	1.460.478	6.257.500	
Maximum	0.394286	0.308182	0.290000	0.228182	4.687.833	1.720.346	1.666.981	1.505.200	
Minimum	0.178000	0.084000	0.066000	0.048000	1.985.600	1.254.685	1.038.578	2.081.250	
Std. Dev.	0.066677	0.067233	0.053747	0.045230	7.422.955	1.482.843	4.106.551	3.449.336	
Skewness	0.560899	0.539732	2.101.826	1.066.361	1.119.239	0.515908	2.711.063	0.814012	
Kurtosis	2.202.091	2.575.070	7.553.067	4.311.569	3.805.411	2.127.214	9.236.177	3.656.611	
2009									
	BI	DEV_STD	DT	I_COM	I_COMP	I_CUST	DISCLOSUR	I_ENV	
Mean	0.266667	1.217.207	1.000.000	0.050074	0.065483	0.163840	0.158337	0.073228	
Median	0.000000	0.850262	1.000.000	0.028000	0.034000	0.150000	0.143849	0.035556	
Maximum	1.000.000	4.134.276	1.000.000	0.201818	0.242727	0.288182	0.311328	0.285455	
Minimum	0.000000	0.299318	1.000.000	0.000000	0.000000	0.070000	0.092063	0.006667	
Std. Dev.	0.457738	1.149.509	0.000000	0.055405	0.072758	0.060112	0.063598	0.085739	
Skewness	1.055.290	1.476.376	NA	1.424.314	1.003.699	0.589969	1.272.809	1.358.653	
Kurtosis	2.113.636	4.063.434	NA	4.624.529	3.193.464	2.648.635	3.678.354	3.692.720	
	I_FIN	I_HC_GOV	I_LIST	I_SUPPL	LEVERAGE	LNASSETS	Q_TOBIN	ROI	
Mean	0.298477	0.208003	0.153467	0.120302	3.255.211	1.461.843	1.429.443	1.329.385	
Median	0.278333	0.208333	0.148333	0.118276	3.177.500	1.420.665	1.217.692	1.960.000	
Maximum	0.454286	0.375714	0.337273	0.282727	6.032.667	1.716.280	3.745.528	1.047.400	
Minimum	0.194000	0.098000	0.093000	0.048000	1.792.667	1.236.766	0.822957	-6.048.824	
Std. Dev.	0.077164	0.072568	0.063528	0.059277	1.026.304	1.510.215	0.760025	3.892.240	
Skewness	0.617709	0.621920	1.686.154	1.242.684	1.199.697	0.450548	2.174.545	0.124655	
Kurtosis	2.492.867	3.210.064	5.684.589	4.725.092	4.676.620	2.086.998	6.954.404	3.981.578	
2012									
	BI	DEV_STD	DT	I_COM	I_COMP	I_CUST	DISCLOSUR	I_ENV	
Mean	0.266667	0.614056	1.000.000	0.130524	0.087919	0.287441	0.260035	0.137451	
Median	0.000000	0.487302	1.000.000	0.099636	0.100000	0.299667	0.230529	0.081201	
Maximum	1.000.000	1.872.727	1.000.000	0.479339	0.199722	0.481818	0.499278	0.508798	
Minimum	0.000000	0.125538	1.000.000	0.000000	0.000000	0.137778	0.155492	0.010753	
Std. Dev.	0.457738	0.508694	0.000000	0.133952	0.065586	0.091500	0.097208	0.142874	
Skewness	1.055.290	1.235.547	NA	1.442.761	0.195065	0.445484	1.290.679	1.439.570	
Kurtosis	2.113.636	3.571.876	NA	4.209.557	1.866.003	2.769.772	3.723.561	4.116.508	
	I_FIN	I_HC_GOV	I_LIST	I_SUPPL	LEVERAGE	LNASSETS	Q_TOBIN	ROI	
Mean	0.451847	0.349813	0.229790	0.200510	3.488.323	1.466.661	1.140.975	-2.532.346	
Median	0.431818	0.310345	0.195000	0.188889	3.214.250	1.409.053	1.112.296	1.565.000	
Maximum	0.613636	0.585714	0.531818	0.373016	7.113.833	1.710.587	1.731.831	4.765.000	
Minimum	0.276000	0.166667	0.116667	0.129259	1.725.333	1.244.595	0.760897	-3.102.500	
Std. Dev.	0.095473	0.125548	0.118971	0.069535	1.340.393	1.509.549	0.260673	1.005.523	
Skewness	-0.045819	0.464867	1.434.662	1.204.079	1.350.984	0.497681	0.852503	-1.911.533	
Kurtosis	2.233.441	2.225.381	4.078.673	3.826.952	4.637.180	2.037.461	3.161.795	5.635.492	

I\_COM=index- Community; I\_COMPT=index -Competitors; I\_CUST=index-Costumers I\_ENV=index-Environment; I\_FIN=index-Financial Lenders; I\_ISTT= index-Institutions; I\_SUPPL=index-Suppliers; I\_UC\_GOV= index- Human capital and corporate governance; IDISCL=index-Disclosure

Interestingly overall the disclosure index (IDISCL) took much higher average values in 2012 than in 2009 and 2006. The disclosure level however was still short of the possible maximum value of the index(= 1). More specifically, average indices were respectively equal to 0.13 in 2006, 0.16 in 2009 and 0.25 in 2012.

In the observed period 2006-2012 the indexes with the greatest growth are “Financial lenders”(I\_FIN), “Human capital and governance” (I\_HC\_CG) and “Customers”(I\_CUST). The first runs from a value of 0,28 in 2006 to a value of 0,43 in 2012; the second runs, in the same period, from a value of 0,17 to a value of 0,34 and the third runs, in the same period, from a value of 0,15 to a value of 0,29. Instead the indicators with less marked growth are: “Institutions” (I\_IST) and “Suppliers” (I\_Sup), with values ranging, in the same period, from 0,12 to 0,22 for the first index, and values ranging from 0,11

to 0,20 for the second. Indexes with modest growth are: “Environment” (I\_ENV) and “Community” (I\_COM) with values ranging from 0,04 to 0,12 for the first and values ranging from 0,03 to 0,12 for the second. The index with almost flat growth is “Competitors” (I\_COMP) with values ranging from 0,04 in 2006 to 0,08 in 2012.

#### 4.4 Model and method of estimation

Before carrying out the regressions, we verified the possible multicollinearity between explanatory variables using the VIF (*variance inflation factor*). In addition, we used the robust standard error clustered at the firm level (HAC). The regressions were performed using the OLS model. The Breusch- Pagan test attested that this model is preferable to the random effects panel model, and the Hausman test attested that the panel model was preferable to random effects with regard to the fixed-effects panel model.

To test the hypotheses, we performed a multivariate analysis by relating the indices of total disclosure with the explanatory variables identified above.

The regression can therefore be summarised in the following multivariate model:

$$\text{Std. Dev} = \alpha + \beta_1 \text{LNA} + \beta_2 \text{BI} + \beta_3 \text{ROI} + \beta_4 \text{L} + \beta_5 \text{Q} + \beta_6 \text{dt} + \beta_7 \text{I\_Disc} + \epsilon [1]$$

Table 5 shows the results of the regression performed.

Table 5: multiple regression - total disclosure index: results

Dependend variable	Standard deviation	
	Coeff	p-value
const	1,01365	0,4856
Q_Tobin	0,206962	<0,0001 ***
i_Disclosure	-2,37832	0,0341 **
LnAssets	0,0418163	0,7072
Leverage	0,0222826	0,0418 **
dt	0,333754	0,26
BI	-0,294757	0,103
ROI	-0,0288877	0,0776 *
R-squared	0,405374	
Adjusted R-squared	0,392877	
P-value(F)	2,31E-07	
Akaike	108,4541	
* Statistically significant at the 10 percent level.		
** Statistically significant at the 5 percent level.		
*** Statistically significant at the 1 percent level.		

The goodness of fit of the proposed model is presented in Table 5. The regression returns a quite high  $r^2$  value = 0.405,  $\text{adj}r^2 = 0,392$ ). In addition, the small difference between the  $r^2$  and  $\text{adj}r^2$  values demonstrates the adequacy of the number of explanatory variables considered. Lastly, still on a general level, it should be noted that the P-values (F) attest the significance of the models as a whole (i.e., all variables simultaneously).

The model confirm that disclosure index has a strong negative effect on the volatility.

Subsequently it was examined what type of stakeholders disclosure affects volatility, according to the previous model [1] but instead of using the general disclosure index we're going to check what kind of disclosure related to the single stakeholder has effect on volatility. To this aim we performed 8 regressions only changing the variable to disclosure that changed according to the selected stakeholders. For example, for customers:

$$\text{Std. Dev} = \alpha + \beta_1 \text{LNA} + \beta_2 \text{BI} + \beta_3 \text{ROI} + \beta_4 \text{L} + \beta_5 \text{Q} + \beta_6 \text{dt} + \beta_7 \text{I\_Cust} + \epsilon$$

The results of 8 regressions are summarized in the table n. 6

Table 6: multiple regression for each stakeholder disclosure index: results

	Coeff	p-value			Coeff	p-value
const	0,973831	0,4412		const	1,1799	0,3163
Q_Tobin	0,203137	<0,0001 ***		Q_Tobin	0,205903	<0,0001 ***
LnAssets	0,0656927	0,5252		LnAssets	0,0412999	0,6502
Leverage	0,026372	0,018 **		Leverage	0,0242583	0,0301 **
dt	0,398296	0,1339		dt	0,31036	0,2865
BI	-0,336896	0,0544 *		BI	-0,338935	0,0854 *
ROI	-0,0276227	0,0713 *		ROI	-0,033646	0,04 **
<b>i Cust</b>	-3,17784	0,0026 ***		<b>i Suppl</b>	-3,46566	0,0112 **
	Coeff	p-value			Coeff	p-value
const	0,454153	0,8066		const	0,778003	0,5108
Q_Tobin	0,208894	<0,0001 ***		Q_Tobin	0,207844	4,6735 ***
LnAssets	0,060588	0,6463		LnAssets	0,0378969	0,3461
Leverage	0,0215312	0,0562 *		Leverage	0,0217097	-2,0244 *
dt	0,298204	0,3166		dt	0,312773	1,0768
BI	-0,275741	0,1127		BI	-0,30999	-1,8707 *
ROI	-0,0240374	0,0953 *		ROI	-0,0222298	-1,5859
<b>i Env</b>	-1,96797	0,0657 *		<b>i Comu</b>	-2,16923	-2,3790 **
	Coeff	p-value			Coeff	p-value
const	1,02193	0,5074		const	1,47461	0,36
Q_Tobin	0,202141	<0,0001 ***		Q_Tobin	0,211298	<0,0001 ***
LnAssets	0,0308528	0,7866		LnAssets	-0,00359769	0,9759
Leverage	0,0235012	0,0401 **		Leverage	0,0222244	0,0641 *
dt	0,255596	0,4109		dt	0,271749	0,3506
BI	-0,176632	0,3856		BI	-0,302774	0,0729 *
ROI	-0,0239405	0,0681 *		ROI	-0,0262118	0,0879 *
<b>i Comp</b>	-3,23784	0,048 **		<b>i Ist</b>	-1,22781	0,2463
	Coeff	p-value			Coeff	p-value
const	1,61759	1,1952		const	1,82402	0,157
Q_Tobin	0,209472	4,7138 ***		Q_Tobin	0,212175	<0,0001 ***
LnAssets	-0,00798444	-0,0792		LnAssets	-0,00836752	0,9331
Leverage	0,0229974	-2,0182 *		Leverage	0,0226262	0,0431 **
dt	0,305385	1,0372		dt	0,287483	0,2958
BI	-0,251923	-1,3277		BI	-0,243528	0,2115
ROI	-0,0274377	-1,7331 *		ROI	-0,0354695	0,0493 **
<b>i HC CG</b>	-1,19594	-1,5661		<b>i Fin</b>	-1,43812	0,0409 **

The table shows that the stakeholder that has a strong impact on volatility is Costumers, while the disclosure of Suppliers, Community, Competitors and Financial lenders have a moderate effect on volatility. The stakeholder environment disclosure has a low impact on volatility. Finally Institutions and Human Capital and Corporate Governance they seem to have no effect on volatility.

## 5 CONCLUSIONS

The present study aims to verify the voluntary disclosure with reference to Italian companies, in a multi-stakeholder perspective. In particular, we have examined the documentation of all non-

financial firms listed in Milan Stock Exchange in 2006, 2009 and 2012, in order to verify, not only the level, but also the evolution throughout time of the voluntary disclosure.

For this purpose, we have verified the disclosure about the following: customers, suppliers, competitors, institutions, environment, community, human capital and corporate governance and financial lenders. The disclosure index like other indexes have all a growing trend, the only index that has a very limited growth is that of competitors. If the analysis focuses on the sectors with the best scores, they are: Public Utilities, Oil & Gas and Auto/ Parts & Equipment. These sectors are those that have developed, before others, non-financial reporting. Outside investors may view information disclosure as useful because it can influence their investment decisions. The evidence presented in this paper suggests that information disclosure may be useful to the market. Controlling for a number of other factors, such as the size and risk of the industry, we find that industry that discloses more information on key items of disclosure show lower measures of stock volatility than do industry that discloses less information. In our paper, moreover also verify what kind information affect the volatility, in particular we have ascertained that Customers, Suppliers, Community, Competitors and Financial lenders and Environment disclosure have a moderate effect on volatility while Institutions and Human Capital and Corporate Governance they seem to have no effect on volatility.

In conclusion, we must emphasize that our paper is not without its limitations. As we said, we didn't do a content analysis, but we used a manual approach and we matched the words and sentences in the documents and identified for each text whether or not the item was mentioned. An advantage of this manual approach over a computer-aided content analysis is that humans can better judge the meaning of words and phrases within a context. A disadvantage is that a manual approach is less cost-effective and flexible. In addition, human raters can make mistakes and are prone to researcher bias (Krippendorff, 2004). To avoid reliability problems, a team of three researchers built the score. The authors defined the list of items, and three research assistants conducted the analysis on the documents. After training was provided to the assistants by the authors, a preliminary check was performed on a sample of three annual documents.

Furthermore, it's important to point out that this paper is just the first step of our project. Future developments will be to study the determinants of the disclosure, in order to verify which drivers and the relationship between the voluntary disclosure released and the companies' characteristics, in a multi-stakeholder perspective. It could also be interesting if the disclosure about the different stakeholder has the same or different explicative variables.

We also will extend our analysis to other countries, in order to formulate comparisons and to understand if the companies, operating in different countries, adopt a different behaviour.

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## ATTACHMENT IN RETAILING SECTOR: RETAILER OWN-BRANDS OR MANUFACTURER BRANDS?

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### ABSTRACT

The aims of this study are (i) to explore the effect of brand credibility, familiarity and brand image on brand attachment and brand attitude; and (ii) to test how a grocery product category and the perception of quality of own-label brands versus manufacturer brands moderate the inter-relationship of brand credibility, brand familiarity and brand image on brand attachment and brand attitude. A survey is administered to a quota sample of Portuguese supermarket shoppers via a face-to-face personal interviewing method. Findings reveal that all relationships are significant except brand familiarity on brand attitude. Credibility and familiarity seem to be more important to enhance attachment in the case of the manufacturer brands and image in the case of retailer own-brands.

**Keywords:** *Credibility, Familiarity, Image, Brand Attitude, Attachment Retailer Own-Brands, Manufacturer Brands*

### INTRODUCTION

Supermarket retailers have been actively pursuing innovation in order to respond to the consumers' demands for low prices and high range and quality of grocery products (Nielsen, 2014). Consumers tend to purchase increasingly own-label brands ever since the economic downturn (PLMA, 2013). In Portugal, retailers have also started to distribute their own brands within other small retail companies. Own-label brands (private labels, house brands, retailer brands, and store brands) are products that stores put their own names or brands on and they have one element in common: they are manufactured and brought to the market in much the same way as the familiar national brands (Oxera, 2010). The Nielsen (2014) study revealed that the Portuguese consumer tries to save money when shopping in supermarkets. About eight out of ten Portuguese buy (especially when it comes to grocery items) based on the price, but they also consider that the quality of retailer own-brands has improved over time. This perception is higher in Portugal than the European average, which reaches 62%. Previous studies have proven that consistency in brand positions over time, including

consistency in the attribute (e.g., quality) levels of products, increases the credibility of a brand as an indicator of a product's position, which, in turn, may decrease the perceived risk (variance of consumer quality perception), information costs, as well as increase the perceived quality (by consumers) associated with a brand (e.g., Dhar and Hoch, 1997; Erdem, Zhao and Valenzuela, 2004; Erdem *et al.*, 2006). Nevertheless, one question arises: can the strength of the influence of brand credibility, image and familiarity on the consumers' overall evaluation and attachment to a brand be affected by the grocery product category and the perception of the quality of an own-label brand versus a manufacturer brand?

Attachment theory has been the basis of a number of studies in several different fields. In 1970's the attachment theory emerged to explain the parent-child relationships (Bowlby, 1979) and continued through to adulthood and romantic relationships (Hazan and Shaver, 1994), kinships and friendships (Weiss, 1988; Trinke and Bartholomew, 1997). In the consumer research field, several studies have suggested that emotional attachment is formed between human beings and animals, places, destinations, special objects, brands (e.g., Richins, 1994; Schouten and McAlexander, 1995; Price *et al.*, 2000; Thomson, MacInnis and Park, 2005; Yuksel *et al.*, 2010; Malär, Krohmer, Hoyer and Nyffenegger, 2011; Loureiro *et al.*, 2012).

Consumer experience is also regarded as influencing attachment to products/brands and places (e.g., Oh *et al.*, 2007; Loureiro, 2014). Experience refers to the multi-sensory, the fantasy, and the emotive aspects of a product (Hirschman and Holbrook, 1982). Customers seek cognitive development, sensations and novelty in their experiential relationship with a product/brand (Hirschman, 1984). Schmitt (1999) conceptualized experience as individual (sensory, feeling and thinking) and shared (acting and relating). Brakus, Schmitt, and Zarantonello (2009) considered brand experience as sensations, feelings, cognitions, and behavioral responses evoked by brand-related stimuli that are part of a brand's design and identity, packaging, communication, and environment. Experiences, such as tourism experiences, may lead to positive emotions and favorable memories contribute to attachment (Loureiro, 2014).

Brand experience may lead consumers to buy more without further scrutiny and contribute to consumer satisfaction (Brakus, Schmitt, and Zarantonello, 2009). Therefore, a rewarding experience with a brand, product or place will provide favorable memories, familiarity and a good brand image in the consumers' minds and may contribute to brand credibility. Previous studies have analyzed the effect of information on consumer brand evaluation and attitude moderated by brand attachment and source of credibility (e.g., Park and Lee, 2013; Chiou, Hsu and Hsieh, 2013). Veasna, Wu, and Huang (2013) found that destination source credibility and destination image can affect the tourists' perceptions of destination attachment and destination satisfaction. Nevertheless, to date, only few

studies have attempted to deal with the inter-relationships of credibility, familiarity and image on attachment or attitude. In order to contribute to bridge this gap, the current study aims (i) to explore the effect of brand credibility, familiarity and brand image on brand attachment and brand attitude; and (ii) to test how a grocery product category and the perception of quality of own-label brand versus manufacturer brand moderate the inter-relationship of brand credibility, brand familiarity and brand image on brand attachment and brand attitude.

The remainder of this article (i) provides a theoretical foundation pertaining to a brief review of previous research related to credibility, brand image, familiarity, brand attachment, and attitude; (ii) presents a research model and proposes hypotheses to be tested; (iii) describes the research methodology and reports the findings; and (iv) introduces the implications, limitations, and suggestions for future research.

## THEORETICAL BACKGROUND

### *Brand Attitude and Brand Attachment*

Brand attitude has been regarded as an evaluation of a brand, that is, an individual's internal evaluation of an object such as a brand or a product (Mitchell and Olson, 1981). Spears and Singh (2004, p. 55) pointed out that attitude towards a brand as a "relatively enduring, unidimensional summary evaluation of the brand that presumably energizes behavior". Therefore, a favorable brand attitude is regarded as a predictor of the consumers' behavior towards a brand.

Favorable brand attitudes are often associated with strong attachments, developed over time and based on interactions between an individual and an attachment object, brand or product (Baldwin *et al.*, 1996). Previous studies suggested that attachment is formed between human beings and animals, special objects, brands (e.g., Richins, 1994; Schouten and McAlexander, 1995; Price *et al.*, 2000), human brands or celebrities (Thomson, 2006), destinations and places (e.g., Gross *et al.*, 2008; Ednie *et al.*, 2010; Yuksel *et al.*, 2010). Consumers who are strongly attached to an object are generally committed to continue their relationship with it (e.g., Miller, 1997; Thomson *et al.*, 2005).

### *Brand Credibility*

The signaling theory has been in use to study the credibility of a brand or a company. This theory is based on the assumption that a different level of information about the goods, services, or company flows between companies and consumers causing the problem of information asymmetry and consumer uncertainty about the quality of the products provided by a business or a company (Kirmani and Rao, 2000). To minimize such problem managers use signals, that is, an action or effect that the service provider or seller can use to convey "information credibly about unobservable product quality to the buyer" (Rao, Qu and Ruekert, 1999, p. 259). In this vein, brands symbolize a

company's past and current marketing-mix strategies (Erdem and Swait, 1998) and are used as signals to lessen the uncertainty of the quality of goods or services (Gammoh, Voss and Chakraborty, 2006; Erdem, Swait and Valenzuela, 2006; Baek, Kim and Yu, 2010).

The credibility of a brand as a signal is defined as "the believability of the product position information contained in a brand, which depends on the willingness and ability of firms to deliver what they promise" (Erdem *et al.*, 2006, p. 34). Brand credibility comprises two components: trustworthiness (willingness of a company to deliver what it has promised) and expertise (the ability of a company to actually deliver what it has promised) (Erdem and Valenzuela, 2004; Erdem, Swait and Louviere, 2002; Erdem *et al.*, 2006; Sweeney and Swait, 2008). Credibility depends on the cumulative effects of the previous marketing-mix actions taken by a company and so the consistency of such marketing actions, that is, the convergence and the stability among the marketing-mix elements over time, is vital to leverage the level of credibility (Erdem *et al.*, 2006).

The credibility of a brand, a company, or a place is also regarded as extrinsic cues, meaning that the price of the product, how it is advertised or communicated, or the offering of a certain warranty may act as signals that bestow credibility. Credible brands increase perceived quality and decrease perceived risk (Erdem *et al.*, 2006) and so we expect that a credible brand enhances a favorable attitude towards the brand and may contribute to strengthen the consumers' emotional attachment to that brand. Credibility regarded as extrinsic cues influences emotions which, in turn, may emotionally attract consumers to a brand. Thereby (see figure 1):

H1: Brand credibility positively influences brand attitude.

H2: Brand credibility positively influences brand attachment.

### *Brand Image*

The Associative Network Theory explains brand image as a mental scheme formed by a network of concepts (nodes) interconnected by linkages or associations (Anderson, 1983; Morrin, 1999; Keller, 2003). Brand image is the consumers' mental representation, the impressions, beliefs, and feelings about a company or a brand (Barich and Kotler, 1991; Barich and Srinivasan, 1993).

Brand image is a complex construct that can comprise several different dimensions. Brand image is related to quality standards (van Riel *et al.*, 2001; Völckner and Sattler, 2006), reputation (Hem *et al.*, 2003) or affection (Sheinin and Schmitt, 1994), among other associations. The products' quality standards are related to its functional image and contribute to create value (Loureiro *et al.*, 2014). The pleasantness of the brand and its "personality" are regarded as an affective image and reputation is a global evaluation (e.g., Martin and Brown, 1990; Weiss *et al.*, 1999). Corporate and brand reputation is the aggregate perception of outsiders on the salient characteristics of companies or brands (Fombrun and Rindova, 2000). A good brand reputation is likely to attract more customers (Milewicz and

Herbig, 1994). In fact, not only the brand image, but also the store image and the brand experience contribute to a favorable brand attitude (Dolbec and Chebat, 2013). Therefore, we propose:

H3: Brand image positively influences brand attitude.

H4: Brand image positively influences brand attachment.

#### *Brand Familiarity*

In the consumer behavior field, several studies have been carried out pertaining to the role of brand familiarity (e.g., Park and Lessig, 1981; Hutchinson and Zenor, 1986; Kent and Allen, 1994; Laroche *et al.*, 1996; Urala and Lähteenmäki, 2003; Ares *et al.*, 2010; Benedicktus *et al.*, 2010). Product or brand familiarity refers to the visual or mental impression of a product/brand or consumer experience and can stimulate positive attitudes towards a brand and purchase intentions (e.g., Park and Lessig, 1981; Kent and Allen, 1994; Laroche, Kim and Zhou, 1996; Wang *et al.*, 2013).

A higher level of familiarity with the brands can lead to a stronger connection between the brand and its attributes (Hutchinson and Zenor, 1986), since familiar brands are less affected by competitive interference in a highly cluttered advertising environment than unfamiliar brands. Actually, in the context of online banking Maäenpää *et al.* (2008) highlighted that familiarity has a significant impact on consumer perceptions and preferences, that is, familiarity influences the customers' perceptions of internet banking service dimensions.

In this vein, a consumer who knows the brand and has favorable information about it and has had a positive experience will have a positive evaluation of that brand, will establish bonds and will feel attached to it. Thus, we propose:

H5: Brand familiarity positively influences brand attitude.

H6: Brand familiarity positively influences brand attachment.

A favorable experience and relationship between the brand and the consumers may generate familiarity, positive image, and credibility which, in turn, may enhance positive overall evaluation and reinforce the connections and bonds with brands (e.g., Jaakkola *et al.*, 2015). However, in a high competitive environment between manufacturer and retailer grocery brands, where the retailer own-brands have higher growth rates and often have exceeded the growth of the manufacturer brands (e.g., Kwon *et al.*, 2008; Oxera, 2010), the category of grocery products may strengthen the impact of credibility, image, and familiarity on the consumers' overall evaluation and their attachment to the brands.

Given that, in the grocery categories where consumers prefer the manufacturer brands or where brand label products compete successfully and innovatively to maintain their position the share of own-label brands remains low (e.g., Kwon *et al.*, 2008; Oxera, 2010), it is expected that product category may moderate the relationship between credibility, familiarity, image, attitude, and

attachment. A product perceived by consumers as being of higher quality and safer for health provided by manufacturer brands will strengthen the relationship linking credibility, familiarity or brand image and attitude and attachment. Thereby, we propose:

H7: Product category and type of brand moderate the effect of brand credibility, brand image, brand familiarity on brand attitude and brand attachment.

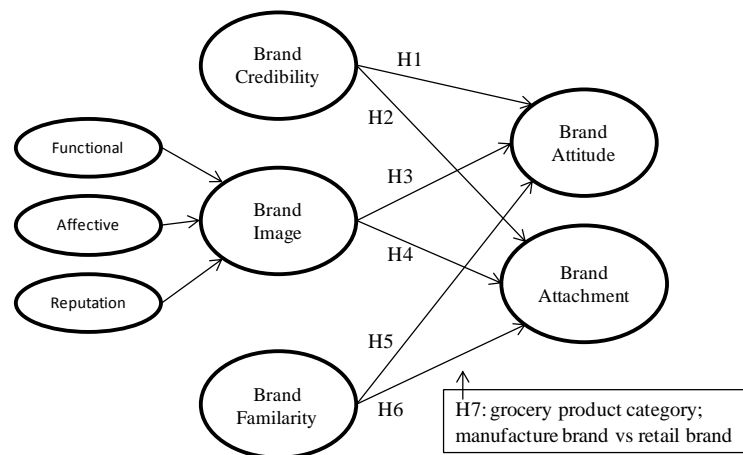


Figure 1. Proposed model

## METHODOLOGY

### *Sample and Data Collection*

The survey was conducted during the period between November 2013 and September 2014 in Lisbon, Amadora and Sintra. The three municipalities were chosen for being the most densely populated and for having the largest number of grocery retailers in Portugal. From a total of 800 questionnaires collected using a face-to-face personal interviewing method in low, medium, and high-peak shopping days, 756 were usable for data analysis. The respondents' profile is according to the last CENSUS 2011, representing a quota sample (see Table 1).

Age and gender	Education	Nº of people in the household
>64 years: 9% male; 14% female	Basic education (9 years):	1: 14.7%
55 to 64 years: 6% male; 8% female	28%	2: 29.6%
45 to 54 years: 7.5% male; 8% female	High school education (12 years): 31%	3: 31.6%
		4: 20.6%

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35 to 44 years: 9% male; 9% female	Higher or university	5: 2.6%
25 to 34 years: 7.5% male; 9% female	education: 41%	>5:0.8%
18 to 24 years: 4.5% male; 4.5% female		

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Table 1. *Respondents' demographic profile.*

Brands considered for this study were selected based on the most representative in two product categories: rice and milk. These are two products that the Portuguese purchase very frequently, but they tend to purchase more milk from manufacturer brands and rice from retailer brands (Marktest, 2012; Nielsen, 2014). Therefore, Continente, Dia and Pingo Doce are retailer brands, whereas, Caçarola, Cigala and Saludães are manufacturer rice brands; and Agros, Mimosa and Gresso are manufacturer milk brands.

The questionnaire was created based on the literature review, and all measurement items were adapted from existing instruments. The original questionnaire was written in English (because most items were originally in English), then translated to Portuguese, and translated back to English to ensure that both questionnaires communicated similar information (Sekaran, 1983). A pilot sample (10 households) was used to ensure that the wording of the questionnaire was clear. Very few adjustments were made. A section of the questionnaire is concerned to socio-demographic data.

Although the questionnaire was developed based on instruments used in previous studies, the structure took several aspects into consideration in order to avoid common method bias. Thus, the items and questions were prepared to avoid ambiguity, namely: keeping them simple and concise, without unfamiliar terms and complex syntax (Tourangeau *et al.*, 2000). Since all constructs were measured using a Likert-type scale (except for brand familiarity), in the current study the same format of response scales was employed. In these instances, it is important to give priority to maintaining the content validity of the items because a lack of content validity poses an even bigger threat to construct validity than does common method bias (MacKenzie *et al.*, 2011). The physical distance between measures of the same construct was also taken into consideration, that is, not to have all items of the same construct right next to each other (Weijters *et al.*, 2009).

#### *Variables and Measurement*

Brand credibility was measured using six items based on Erdem, Swait e Valenzuela (2006), brand image comprises three dimensions based on Salinas and Pérez (2009), brand familiarity was measured using two questions based on Laroche, Kim and Zhou (1996). Regarding the dependent constructs, brand attachment was assessed using three items adapted from Thomson, MacInnis and Park (2005) and brand attitude was evaluated using four items based on Mitchell and Olson (1988). All the items were rated using a 5-point Likert type scale (1 – strongly disagree to 5 – strongly agree), except for brand familiarity (1-no previous experience to 5-a lot of previous experience).

### *Data analysis*

Regarding data treatment, the PLS approach was used to test the hypotheses of this study. PLS is based on an iterative combination of principal component analysis and regression to explain the variance of the constructs in the model (Chin, 1998). PLS enabled the researchers to avoid biased and inconsistent parameter estimates, and it is an effective analytical tool to test interactions by reducing Type II errors and allowing analysis using a small sample (Chin *et al.*, 2003). PLS makes lower demands on measurement scales, sample size and residual distributions (Wold, 1985). In addition, PLS avoids inadmissible solutions and factor indeterminacy (Fornell and Bookstein, 1982). PLS algorithm minimizes the variance of all the dependent variables instead of explaining the co-variation and so the manifest variables do not have to follow normal distribution, in other words, there are no assumptions regarding the distributional form of manifest variables (Chin, 1998).

## **RESULTS**

The proposed model of this study has a second order formative construct and the PLS path modeling allows for the conceptualization of higher-order factors through its repeated use of manifest variables (Chin *et al.*, 2003; Tenenhaus *et al.*, 2005; Kleijnen *et al.*, 2007). A PLS model should be analysed and interpreted in two stages. First, the measurement model or the adequacy of the measures is assessed by evaluating the reliability of the individual measures, the convergent validity, and the discriminant validity of the constructs. Then, the structural model is evaluated.

In order to evaluate the adequacy of the measures at the first order construct level, the reliability of the individual measures and the discriminant validity of the constructs are considered (Hulland, 1999). Item reliability was assessed by examining the loading of the measures on their corresponding construct. Items with loadings of 0.707 or higher should be accepted, which indicates that over 50% of the variance in the observed variable is explained by the construct (Carmines and Zeller, 1979). Table 2 shows that all items have an item loading higher than 0.708 (range between 0.708 and 0.921). The reliability of the constructs was mainly analyzed using composite reliability, since it has been considered a more accurate measurement than Cronbach's alpha (Fornell and Larcker, 1981). Table 2 indicates that all constructs are reliable since the composite reliability values are over 0.8 (Nunnally, 1978). The measures also demonstrated convergent validity as the average variance of manifest variables extracted by constructs (AVE) is at least 0.5, indicating that more variance is explained than unexplained in the variables associated with a given construct (see Table 2). The measurement model for the present study was estimated and presented using the full sample because comparisons of the measurement models for the sub-samples showed no statistical differences.

<i>Construct / item</i>	Mean	Item	AVE	Composite	Cronbach's
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		loading		Reliability	Alpha
<i>B. Attitude</i>	3.7		0.790	0.938	0.912
My evaluation of the brand is positive		0.894			
This is a good brand		0.872			
I have a favorable evaluation of this brand		0.886			
This brand is likable.		0.904			
<i>B Attachment (connection)</i>	2.9		0.806	0.926	0.879
I feel attached to this brand		0.867			
I feel bonded to this brand		0.910			
I feel connected to this brand		0.916			
<i>B. Credibility</i>	3.4		0.647	0.916	0.889
This brand delivers what it promises.		0.843			
This brand's product claims are believable.		0.708			
Over time, my experiences with this brand have led me to expect it to keep its promises, no more and no less.		0.834			
This brand is committed to delivering on its claims, no more and no less.		0.857			
This brand has a name I can trust.		0.784			
This brand has the ability to deliver what it promises.		0.858			
<i>B. Familiarity</i>	2.8		0.794	0.885	0.745
How do you rate your level of familiarity with the brand? (1-no information/5- a great deal of information)		0.860			
How do you rate your level of familiarity with the brand? (1-no previous experience/5-a lot of previous experience)		0.921			
<i>Affective</i>	3.5		0.685	0.867	0.770
This brand is nice		0.837			
This brand has a personality that distinguishes itself from competitors					
It's a brand that doesn't disappoint its customers					
<i>Functional</i>	3.3		0.752	0.858	0.670
The products have a high quality.		0.879			
The products have better characteristics than competitors.		0.854			
<i>Reputation</i>	3.6		0.682	0.811	0.536
It's one of the best brands in the sector.		0.799			
This brand is very consolidated in the market.		0.852			

<i>Second order formative constructs</i>	<i>First-order constructs/ dimensions</i>	<i>Weight</i>	<i>t-value</i>	<i>VIF</i>
<i>Brand Image</i>	Functional	0.331***	16.207	2.390
	Affective	0.472***	20.582	2.722
	Reputation	0.296***	15.297	2.859

Note: Significant at \*\*\* $p < 0.001$

Table 2. *Measurement model*

At the second-order construct level, we have the parameter estimates of indicator weight, significance of weight (t-student) and multicollinearity of indicators. Weight measures the contribution of each formative indicator to the variance of the latent variable (Robert and Thatcher, 2009). A significance level of at least 0.05 (in the case of this study a significant level of at least 0.001) suggests that an indicator is relevant to the construction of the formative index (brand image), and thus demonstrates a sufficient level of validity. The recommended indicator weight is  $> 0.2$  (Chin, 1998). Table 2 shows that all three indicators (functional, affective and reputation) have a positive beta weight above 0.2. The degree of multicollinearity among the formative indicators should be assessed by variance inflation factor (VIF) (Fornell and Bookstein, 1982). The VIF indicates how much an indicator's variance is explained by the other indicators of the same construct. The common acceptable threshold for VIF is below 3.33 (Diamantopoulos and Siguaw, 2006). Table 2 shows VIF values are  $< 3.33$  and so the results did not seem to pose a multicollinearity problem.

Regarding discriminant validity, the square root of AVE should be greater than the correlation between the construct and other constructs in the model (Fornell and Larcker, 1981). Table 3 shows that this criterion has been met. The last part of Table 3 shows that the correlations between each first order construct and the second order construct is  $> 0.71$  revealing that they have more than half of their variance in common, as expected (MacKenzie *et al.*, 2011).

	1	2	3	4	5	6	7
AVE <sup>1/2</sup>	0.828	0.889	0.898	0.804	0.891	0.867	0.826
1. Affective	1.000						
2. B Attitude	0.696	1.000					
3. B Attachment	0.683	0.684	1.000				
4. B. Credibility	0.705	0.706	0.703	1.000			
5. B. Familiarity	0.469	0.516	0.520	0.471	1.000		
6. Funtional	0.614	0.676	0.653	0.692	0.521	1.000	
7. Reputation	0.664	0.663	0.592	0.611	0.501	0.629	1.000
Correlation between first and second-order construct							
	Functional		Affective		Reputation		
Brand image	0.884		0.935		0.898		

Table 3. *Discriminant validity*

Table 4 displays the full structural results. Path coefficients (standardized betas) indicate the strength of a direct relationship between constructs. The nonparametric approach (Bootstrap) was used to estimate the precision of the standardized betas (Chin, 1998; Fornell and Larcker, 1981). The path coefficients are found to be significant at the 0.05, 0.01 and 0.001 levels with signs being in the expected direction, except for the relationship B. Familiarity  $\rightarrow$  B. Attitude. In the case of the product Milk the relationship B. Familiarity  $\rightarrow$  B. Attachment is also not statistically significant. In this vein, the findings demonstrate that B. Credibility has a positive and significant influence on both B. Attitude ( $\beta=0.304$ ,  $t=3.025$ ) and B. Attachment ( $\beta=0.344$ ,  $t=3.191$ ). B. Image has a positive and significant effect on both B. Attitude ( $\beta=0.578$ ,  $t=5.788$ ) and B. Attachment ( $\beta=0.337$ ,  $t=2.607$ ). B. Familiarity has a positive and significant effect on B. Attachment ( $\beta=0.176$ ,  $t=2.050$ ), but not on B. Attitude ( $\beta=0.060$ ,  $t=0.928$ ).

The values of the  $Q^2$  (the Stone–Geisser test) can be used to evaluate the predictive relevance of the model. All  $Q^2$  are positive, confirming that the relationships in the model have predictive relevance. The model also demonstrates a high level of predictive power ( $R^2$ ), because the modeled constructs explain for 77.3% of the variance in brand attitude and 57.3% of the variance in brand attachment, considering the full sample. The overall goodness of fit, proposed by Tenenhaus *et al.* (2005), reveals a good fit for the full sample and each of the divided samples. Even so, the value of GoF is the highest for the sample of Rice from manufacturer brands.

Table 4 also shows the t-values of the multi-group analysis, using the formula proposed by Chin (2004). Considering the product Rice, the relationship B. Familiarity  $\rightarrow$  B. Attachment has a statistically significant difference between manufacturer brand and retailer brand. Pertaining to the product Milk, two relationships have significant differences: B. Credibility  $\rightarrow$  B. Attachment and B. Image  $\rightarrow$  B. Attachment

Path	Beta full sample	Hypothesis	Beta Rice Retail brand	Beta Rice Manufacture brand	t-test multi-group analysis	Beta Milk Retail brand	Beta Milk Manufacture Brand	t-test multi-group analysis	Hypothesis
B. Credibility $\rightarrow$ B. Attitude	0.304**	H1: fully supported	0.352**	0.249*	0.765 ns	0.293*	0.240*	0.386 ns	H7: partially supported
B. Credibility $\rightarrow$ B. Attachment	0.344**	H2: fully supported	0.291*	0.334**	-0.242 ns	0.219*	0.470***	-1.966*	
B. Image $\rightarrow$ B. Attitude	0.578**	H3: fully supported	0.501***	0.658***	-1.092 ns	0.581**	0.599***	-0.147 ns	
B. Image $\rightarrow$	0.337**	H4: fully	0.345**	0.182 ns	0.777 ns	0.540**	0.252*	1.967*	

B. Attachment		supported				*			
B. Familiarity -> B. Attitude	0.060 ns	H5: not supported	0.092ns	0.057 ns	0.394 ns	0.089 ns	0.108 ns	-0.216 ns	
B. Familiarity -> B. Attachment	0.176*	H6: fully supported	0.205*	0.375**	-1.965*	0.118 ns	0.108 ns	0.074 ns	
R <sup>2</sup> B. Attitude	0.773		0.732	0.839		0.763	0.809		
R <sup>2</sup> B. Attachment	0.573		0.509	0.640		0.610	0.614		
Q <sup>2</sup> B. Attitude	0.633		0.634	0.668		0.643	0.667		
Q <sup>2</sup> B. Attachment	0.578		0.589	0.613		0.596	0.610		
GoF	0.71		0.73	0.80		0.75	0.78		

Table 4. Structural results and multi-group analysis

## CONCLUSIONS AND IMPLICATIONS

The current study attempts to contribute to the understanding of the effect of brand credibility, brand image and brand familiarity on brand attitude and brand attachment. Moreover, we also tested whether the grocery product category and the perception of quality of own-label brand versus manufacturer brand moderate the inter-relationship of brand credibility, familiarity, and brand image on brand attachment and brand attitude. The relationships between constructs emerge from previous studies, but as far as we know have not been empirically tested.

The proposed hypotheses were supported, except H5, demonstrating the role of brand image and brand credibility on the formation of a positive evaluation of a brand and creating bonds and connections. Brand familiarity contributes to reinforcing the bond and connection to a brand, but does not wield a significant effect on attitude. The affective dimension of brand image is the most relevant when it comes to shaping the brand image, followed by functional dimension. This seems to reveal that grocery customers give more importance to the pleasantness and distinctive “personality” of the brand, than to the disappointment and the quality of a brand. Nevertheless, the three dimensions capture the essence of brand image as suggested by Salinas and Pérez (2009).

Erdem *et al.* (2006) have proven that brand credibility affects the consumers’ choice because it lowers risk perceptions. Sweeney and Swait (2008) showed the effect of credibility on loyalty through commitment and satisfaction. However, this study suggests brand credibility, regarded as external cues, as an important driver to develop bonds and strong connections to a brand. A grocery customer

who believes the brand's product claims and trusts the brand because it delivers what it promises is more willing to develop bonds with such brand.

Brand image seems to be more effective in influencing the favorable global evaluation of a brand than brand credibility. Therefore, the results of this study are in line with that of Salinas and Pérez (2009), where brand image exerts a significant influence on attitude. On the other hand, the experience with a brand and the knowledge about it, that is, familiarity, do not mean having a favorable evaluation about the brand. Brand familiarity may act as a buffer against the adverse impact of negative information on brands. The consumers' prior familiarity with the brand moderates the perceived crisis about a brand and the attitude towards it (Dawar and Lei, 2009). Laroche *et al.* (1996) highlighted the importance of brand familiarity as determinant of purchase intention through a positive attitude towards a brand. Nevertheless, the current study goes further and suggests that brand familiarity is more important for establishing bonds and connections towards a brand than having a really significant effect on a favorable evaluation of the brand. Moreover, a product (such as rice), considered by consumers as having similar quality in both manufacturer and retailer brands, seems to increasingly strengthen the relationship between brand familiarity and brand attachment in the case of the manufacturer brands. According to Dawar and Lei (2009) and Benedicktus *et al.* (2010), familiar brands serve as abstract associations and strong signals of quality and benefits and even act as a high-scope heuristic capable of buffering the generalized suspicion consumers may have and so are more willing to establish and maintain strong ties with customers.

Although the products from retailer brands are progressively improving their quality and such fact is recognized by customers, the fact that retailer brands are associated to a variety of product categories contributes to blur the associations in the customers' minds. Yet, a manufacturer brand is associated to a single product category or at least a short variety of products, and so the manufacturer brand is more category specific than the retailer brand. Thus, if the consumer is familiar with a brand, the neural network in the customer's mind is not so easily interconnected with other product categories and it is possible to strengthen the customer's emotional attachments to the brand.

The believability of the product information contained in a brand, which requires that customers perceive the brand as having the expertise and trustworthiness to continuously deliver what has been promised, contributes to the emotional attachment to a brand and this is particularly true in the case of manufacturer brands of product categories where customers are more concerned about the product quality such as milk. In this vein, the emotional attachment to a manufacturer brand seems to be more associated with the credibility and familiarity which generate long-term ties with a certain manufacturer brand.

Brand image appears to be more effective in establishing ties in the case of retailer brands. As mentioned by Salinas and Pérez (2009), positive image facilitates business expansion through brand extensions. Retail stores use their brand labels in several product categories; thereby, if the affectivity, functionality, and reputation of the store are favorable to customers such image can be transferred to the products in a mechanism of image extension.

The findings of the current study have theoretical implications for research on retailer and manufacturer grocery brands and customer behavior. First, we show that the familiarity with a brand does not always contribute to a significantly favorable overall evaluation of a brand. This is noteworthy because previous research pointed out the strength of direct relationship between familiarity and attitude. Second, our research is the first attempt to suggest that brand credibility and brand familiarity are more effective in enhancing the emotional attachment to a manufacturer grocery brand. Third, the image of a store may leverage the retailer brand image of grocery products in such a way that enhances the customers' attachment.

As regards to the managerial implications, grocery store managers should be aware that the growing acceptance and choice of retailer brands, despite the perceived quality, may be too associated with a time of economic crisis and the cutback of the family budget. After this period, customers may prefer the manufacturer brands, with which they are more familiar with and to which they bestow more credibility. Thereby, retailer grocery brands should not only follow the tendencies and characteristics of the products used by manufacturer brands, at the lowest price, but should also be more active on creating a product differentiation. Moreover, grocery store brand managers should be more effective in communicating the extension of the store image to the image of the products; they should develop a consistent and differentiating brand image. From the point of view of the manufacturer grocery brands, managers should be directed towards continuous innovation, being the leaders in innovation and introducing products by skimming, even if the market share is lower.

Regarding limitations and further research, the study has several limitations that could potentially represent opportunities for further research. Firstly, the data was collected in a country struggling in an economic crisis, Portugal, which limited the generalization of the findings. Therefore, the study should be replicated not only in other counties, but also at different time periods (longitudinal approach). Secondly, Thomson *et al* (2005) identified a higher-order emotional attachment construct consisting of three factors: affection, passion, and connection. However, in this study brand attachment was measured using only the connection factor because it is the factor more associated with bonds and ties. Even so, future research should test brand attachment considering the other two factors. Thirdly, the product categories and brand names were selected given that they are the most purchased. Future studies should consider other product categories.

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## SOME ANTECEDENTS AND OUTCOMES OF PASSIONATE DESIRE FOR FASHION CLOTHES AND ACCESSORIES

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### ABSTRACT

Fashion trends and consumer-fashion brand relationships have been subject of study for both researchers and practitioners. Yet, as far as we know, there is a lack of analysis of the process behind the creation of a fashion trend, in previous studies. Therefore the main goal of this research was to start to understand the process behind the creation of a fashion passion for clothes and accessories, particularly to understand in what extend do narcissism and social values influence passionate desire and then, the way passionate desire influences positive word-of-mouth and affective commitment. Findings reveal that Social values have a positive and significant direct effect on Passionate desire. Yet, the strength of the relationship between Narcissism and Passionate desire is weak. The strength of the relationship between Passionate desire and word-of-mouth is weaker than the relationship between Passionate desire and Affective commitment. The current study also provides managerial implications and suggestions for further research.

**Keywords:** *passionate desire, narcissism, affective commitment, word-of-mouth, fashion brands*

### INTRODUCTION

Karl Lagerfeld once said "Buy what you don't have yet, or what you really want, which can be mixed with what you already own. Buy only because something excites you, not just for the simple act of shopping." This sentences contain the relevance of emotional relationship that a fashion brand should create within its consumers. We even point out the passionate desire to buy and use fashion products, such as clothes and accessories. The passion for fashion may enroll consumers on being affectively committed, an antecedent of loyalty. The passionate desire could also be a lever to recommend and give suggestions to others. But, what could be the drivers for such passionate desire? The current study analyze two: narcissism and social values.

In this vein, the main goal of this research was to start to understand the process behind the creation of a fashion passion for clothes and accessories, particularly to understand in what extend do narcissism and social values influence passionate desire and then, the way passionate desire influences positive word-of-mouth and affective commitment.

The remainder of this article presents the theoretical background, the hypotheses and the proposed model. These are followed by the methodology and the results. Finally, conclusions and implications are presented and suggested.

## THEORETICAL BACKGROUND

### *Passionate desire*

Passion and love have been analyzed from two perspectives: emotion (single, specific feeling akin to affection) (Richins, 1997) and relationship (can last for decades and involves numerous affective, cognitive, and behavioral experiences) (Fournier, 1998). Several typologies of emotions have been proposed. Some of them consider love as a basic emotion (e.g., Arnold, 1960; Parrott, 2001), but for others is a human feeling resulting from joy and trust (e.g., Plutchik, 2011).

One of these approaches is proposed by Sternberg (1986), who suggests a triangular theory of love. The interpersonal triangular theory of love adapted to the consumption context considers that brand love is made by dimensions such as passion, intimacy, and commitment (e.g., Kamat and Parulekar, 1997; Keh, Pang, and Peng, 2007). Ahuvia (1993) suggests that consumers can have a real feeling of love toward an object and conceptualizes the love feeling as having two dimensions: the real and the desired integration.

Based on the consumer-brand relationship paradigm, Carroll and Ahuvia (2006) indicate that brand love is composed of five dimensions: passion, attachment, positive evaluation of the brand, positive emotions in response to the brand, and declaration of love for the brand. Here, passion is regarded as the “desire to invest mental and emotional energy in increasing or maintaining the extent to which an object is integrated into the self” (Ahuvia, Batra and Bagozzi, 2009, p. 353).

Albert, Merunka, and Valette-Florence (2008) propose two main components of brand love that are also to be found in the interpersonal love literature. The seven first order dimensions (idealization, pleasure, intimacy, long duration relationship, dream, memories, uniqueness (Albert et al., 2008). The seven factors offer a second order solution with two factors labelled passion and affection. Albert et al. (2008) using exploratory correspondent analysis followed by cluster analysis found eleven dimensions underlie brand love: passion, a long duration relationship, self-congruity, dreams, memories, pleasure, attraction, uniqueness, beauty, trust (satisfaction), and a willingness to state this love. However, Albert et al. (2008, p. 1073) note that they did not find the aspects of attachment and commitment.

Lately, Batra, Ahuvia, and Bagozzi (2012) try to bridge the gaps of previous studies and propose the brand love higher-order prototype model which comprises seven latent constructs: self-brand integration (current and desired self-identity, life meaning, intrinsic rewards, and frequent thoughts); passion-driven behaviors (willingness to invest resources, passionate desire to use, involvement);

positive emotional connection (intuitive fit, emotional attachment, positive affect); anticipated separation distress; overall attitude valence; attitude strength (certainty and confidence).

In the relational perspective passion emerges as a dimension of a love toward a brand (name, term, design, symbol, according to AMA), an idea, or an object or thing. An individual that is passionate about a brand and hence demonstrates passion-driven behaviors reflects a strong desire to use the brand or the object in question; he/she will invests time and money in that brand and frequently interacts with it. According to Carroll and Ahuvia (2006) the love for a brand involves the “*degree of passionate emotional attachment a satisfied customer [develops] for a particular trade name*”. Love and passion are at the core of a strong brand relationship, meaning infatuation, selfish, and even obsessive dependency.

Consumers passionate about fashion will enjoy to express their inner-self through fashion objects and brands. Individuals who enjoy to exhibit the clothes and accessories and be admired for their choices will enhance the passion for fashion and the willingness to communicate their consumption experience and suggestions.

#### *Narcissism*

In Western cultures narcissism is regarded as a focus on individualism and concern for individual goals of wealth and fame (Fukuyama, 1999; James, 2007). Lasch (1991) characterizes the culture of narcissism by an “entitlement mentality”, which comprises an unjustified sense of privilege. Therefore, consumers feel the compulsion of consumption to feed their self-esteem and self-image. Narcissists are, thus, concerned about reaching individual goals, rather than on communal ones. They also carefully select partners who will improve their image instead of seeking partners who improve warmth and intimate rewards. Narcissists tend to do not involve and commitment themselves in relationships, since the focus is on the individual. This may even reflect playing games with romantic partners, by being superficially charming, in order to attempt to enhance status (Lambert and Desmomid, 2013). In extreme cases, narcissists may be aggressive if that’s what it takes to achieve their goals and objectives. So, narcissists tend to value their inner-self more than they value others, such as partners, with whom they have a relationship. Narcissism may be defined as an egocentric, self-aggrandizing, dominant, and manipulative orientation (Sedikides et al., 2004; Morf, Horvath and Torchetti, 2011).

Cisek *et al.* (2014) argue that narcissists are addicted to self-esteem as well as striving for self-enhancement. Their self-dignity lay on the admiration that they receive from others rather than on building long-lasting relational bonds. They are exhibitionists who value vanity and have a relentless need to validate their self-beliefs in front of others (Wallace and Baumeister, 2002). Additionally, they show a desire for material possessions (Cisek *et al.*, 2014) and prefer products that positively

distinguish them, that is, tend to search for products that are scarce, unique, exclusive, and customizable (Lee, Gregg and Park, 2013). Particularly, narcissists enjoy to display material possessions, such as fashionable clothes, (Sedikides, Cisek and Hart, 2011). New and impressive-looking clothes are used as an extended self and not more reliable and practical clothes (Belk, 1988). Therefore, consumers who enjoy to show impressive-looking clothes, desire for material possession, new trends, be the center of attention, and admire their look in the mirror should be passionate for fashion (see Figure 1).

**H1:** Narcissism has a positive effect on Passionate Desire to use fashion products (clothes and accessories).

#### *Social influence*

Solomon *et al.* (2006, p.113) define value as “*a belief about some desirable end-state that transcends specific situations and guides selection of behavior*”. Consequently, values play an important role in the consumption process. Individuals may use fashionable clothes to assert their professional position or demonstrate their social status, or even to classify or differentiate themselves from others (Li *et al.*, 2012; Loureiro and De Araújo, 2014). Individuals may buy clothes and other products mostly to impress others, (Lawry *et al.*, 2010). Therefore, social values are related to what others say and reflect the participation of the community, the group of belonging and society.

Fashion industry is associated to conspicuous consumption. The term coined by the sociologist Veblen emerges to consider a type of consumption connected to the symbolic, unnecessary, that goes beyond the utilitarian. Conspicuousness of a product is related to its susceptibility to the reference group, to be displayed in public (Bearden and Etzel, 1982). Thus, social “needs” and the potential prestige that a fashionable clothe may confer to an individual (Kort *et al.*, 2006) are related to the feeling of recognition within their social group.

The importance of the others, the feeling of being accepted may contribute to the passion for fashion. Fashion items or products that are accepted by others, friends and groups of belonging provide more incentive for the desire to have it, desire to have and use.

Therefore, such fashion products seem likely to enjoy more passion from consumers.

**H2:** Social values have a positive effect on Passionate Desire to use fashion products (clothes and accessories).

#### *Affective Commitment*

Although commitment has been considered as a core construct in consumer-brand relationship, love and commitment are two distinct dimensions (e.g., Fehr, 1988; Chang and Chieng, 2006). Commitment happens when mutual motivation and efforts exist, therefore ensuring and maintaining an on-going

relationship, which is defined as very important for all parties (Morgan and Hunt, 1994; Fullerton, 2003; Stanko et al., 2007; Bobot, 2011).

Commitment is an enduring desire to maintain a valued relationship (De Wulf, Oderkerken-Schröder and Iacobucci, 2001; De Ruyter, Moorman, and Lemmink, 2001; Morgan and Hunt, 1994), which reflects a psychological connection, a voluntary willingness and intention to remain in and develop efforts toward maintaining a relationship (De Wulf, Oderkerken-Schröder and Iacobucci, 2001; Palmatier et al. 2008). Different motivations can underlie this intention to maintain a relationship, thus leading to two different types of commitment, one more economic, designed calculative commitment and another more emotional and called affective commitment. The calculative one captures the more rational dependence due to the difficulty to change to other brand or firm or switching costs (Fullerton, 2003; Anderson and Weitz 1992; Dwyer, Schurr, and Oh, 1987). Affective commitment reflects the affective nature of the relationship between the individual and the product or brand (Gruen, Summers and Acito, 2000). Thus, we propose:

**H3:** Passionate Desire to use fashion products (clothes and accessories) has a positive effect on affective commitment.

#### *Positive word-of-mouth*

Consumers tend to buy products with images consistent with their mental representation of self and with in-group (group of reference) (Escalas and Bettman, 2003, 2005). Possessions allow consumers to extend, expand, and strengthen their sense of self (Belk, 1988). When consumers develop a favorable relationship with a brand or object, feel positive emotions, a passion, then they are willing to talk about and recommend it to others, or even re-buy the brand (e.g., Zeithaml, Berry and Parasuraman, 1996; Carroll and Ahuvia, 2006; Thomson *et al.*, 2005). Nevertheless, individuals are spreading word-of-mouth about products, brands, ideas in order to be consider experts near their family and friends, or want to be viewed as experts in the market and influencing others or gaining social status (e.g., Richins, 1983; Feick and Price, 1987).

Nowadays, after the advent of Internet, individuals have several possibilities to express their ideas and opinions about product, brands, objects, using blogs, Social Networking Sites (SNS), MySpace, YouTube and others. Individuals are using these platforms to spread their self-expression, exposing the way they are through posts and photos many times using the brands to be more explicit or as a means of communicating their interests and attracting attention. The way consumers desire to self-express about the products and brands they buy and use may act as a motivator to spread word-of-mouth (Saenger, Thomas and Wiggins Johnson, 2013). Therefore, consumers enjoy to express themselves through the products and brands they buy and use and communicate to other about their

consumption and advise others. The passion for some fashion products may lead the consumer to want to express it to others through social networks. Thus,

**H4:** Passionate Desire to use fashion products (clothes and accessories) has a positive effect on word-of-mouth about consumption activities.

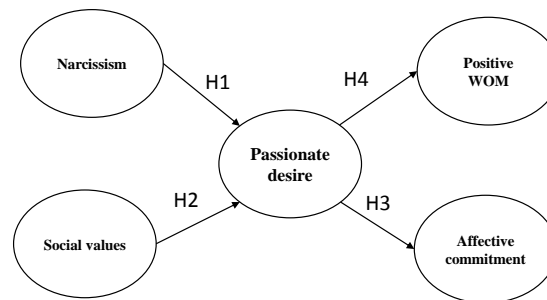


Figure 1. Proposed model

## METHODOLOGY

### Data collection

A questionnaire was formed based on the literature review and all measurement items were adapted from existing instruments. The original questionnaire was written in English, then translated to Portuguese and translated back to English. Back translation was used to ensure that the items in Portuguese and English communicated the same information (Sekaran, 1983). The structure of the questionnaire took several aspects into consideration in order to avoid common method bias, such as the disposition of the items of each construct and the items and questions were prepared to avoid ambiguity. Additionally, the Likert-type questions appeared random, so that the order and constructs were not obvious.

The last part of the questionnaire concerned socio-demographic data. Then the questionnaire was pilot tested with the help of ten consumers to ensure that the respondents understood the questions and there were no problems with the wording or measurement. After this, only a few adjustments were made.

Data collection was conducted over two weeks, March 26<sup>th</sup> and April 8<sup>th</sup>, 2015. Respondents were contacted in the Lisbon area through a panel sample.

The categories of fashion brands were used as a control variable, considering Haute-couture brands (ex: Chanel, Hermès, Prada, etc.); High-fashion brands (ex: COS, Hackett, Massimo Dutti, Uterque, etc.); Fast-fashion brands (ex: Zara, Asos, H&M, Pull&Bear, etc.); and Sports brands (ex: Adidas, New Balance, Nike, Reebok, etc.)

### Sample Profile



Of the participants in this questionnaire, 69% were female and 31% were male. In regards to age groups, 1% was less than 18 years old, 46% was between 18 and 25 years old, 20% was between 26 and 35 years old, 12% between 36 and 45, 14% between 46 and 55 years old, only 6% was between 56 and 65 and, lastly, 1% was more than 65 years old. Looking at marital status, 67% were single, 25% married, 7% divorced and 1% widowed. Then, educational level, 1% has less than a High School diploma, 12% finished High School, 50% completed a Bachelor degree (university), 35% completed a Master degree and finally, 2% a PhD. Lastly, the monthly income level was also relevant to analyze. So, 46% of respondents earn less than €1,000, 29% earn between €1,000 and €2,000, 9% between €2,000 and €3,000, 5% between €3,000 and €4,000, 3% between €4,000 and €5,000, and to conclude, 8% earn more than €5,000.

#### Variables and Measurement

The constructs were measured with multi-item scales (see Table 1). All items were measured using a 5-point Likert-type scale.

Construct	Items: statements	Source
Brand Categories	<b>B1:</b> Haute-couture brands (ex: Chanel, Hermès, Prada, etc.)	Tungate (2014)
	<b>B2:</b> High-fashion brands (ex: COS, Hackett, Massimo Dutti, Uterque, etc.)	
	<b>B3:</b> Fast-fashion brands (ex: Zara, Asos, H&M, Pull&Bear, etc.)	
	<b>B4:</b> Sports brands (ex: Adidas, New Balance, Nike, Reebok, etc.)	
Passionate desire	<b>LP1:</b> I feel myself craving to use it.	Batra, Ahuvia, & Bagozzi (2012)
	<b>LP2:</b> I feel myself desiring it.	
	<b>LP3:</b> I feel a sense of longing to use it.	
	<b>LP4:</b> I have a feeling of wanting toward it.	
Affective commitment	<b>BL1:</b> I am committed to the brand.	Johnson, Herrmann, & Huber (2006)
	<b>BL2:</b> I'll continue the relationship with this brand, through good times and bad.	
	<b>BL3:</b> I have a lot of faith in my future with this brand.	
Narcissism	<b>N1:</b> Modesty doesn't become me.	Raskin, & Terry (1988)
	<b>N2:</b> I get upset when people don't notice how I look when I go out in public.	
	<b>N3:</b> I like to be the center of attention.	
	<b>N4:</b> I would do almost anything on a dare.	
	<b>N5:</b> I really like to be the center of attention.	
	<b>N6:</b> I like to start new fads and fashions.	

	N7: I like to look at my body.	
	N8: I like to look at myself in the mirror.	
	N9: I like to display my body.	
	SV1: I like to know what brands and products make good impressions on others.	Adapted from
	SV2: I usually keep up with style changes by watching what others buy.	Wiedmann et al. (2009).
	SV3: Before purchasing a product it is important to know what kinds of people buy certain brands or products.	
	SV4: Before purchasing a product it is important to know what others think of people who use certain brands or products.	
	SV5: I tend to pay attention to what others are buying.	
Social Value Dimensions	SV6: Before purchasing a product it is important to know what my friends think of different brands or products.	
	SV7: I actively avoid using products that are not in style.	
	SV8: If I were to buy something expensive, I would worry about what others would think of me.	
	SV9: Social standing is an important motivator for my luxury consumption.	
	SV10: For me as a luxury consumer, sharing with friends is an important motivator.	
	SV11: I often consult my friends to help choose the best alternative available from a product category.	
	SV12: My friends and I tend to buy the same brands.	
	W1: I like to talk about what products and services I use so people can get to know me better.	Saenger, Thomas, &
	W2: I like the attention I get when I talk to people about the products and services I use.	Johnson (2013).
Positive W-O-M	W3: I talk to people about my consumption activities to let them know more about me.	
	W4: I like to communicate my consumption activities to people who are interested in knowing about me.	
	W5: I like the idea that people want to learn more about me through the products and services I use.	

**W6:** I like it when people pay attention to what I say about my consumption activities

Table 1. Constructs and multi-item scales used in the questionnaire

## RESULTS

In order to treat data, we first analyzed the quality of the same and captured the dimensionality of each construct by conducting several factorial analyzed (principal components) and Varimax rotation. As expected, the several constructs are one-dimensional except two: Narcissism and Social Values. Each of these two constructs is composed by two factors. Social values (Kaiser-Meyer-Olkin measure of 0.916;  $\chi^2 = 1953.3$ , sig.=0.00) presents the factors called prestige and informational. Also, Narcissism (Kaiser-Meyer-Olkin measure of 0.815;  $\chi^2 = 1472.0$ , sig.=0.00) presents the factors called Vanity and Exhibitionism, according to the adapted scale. Next, these two constructs are regarded as second order formative construct. The PLS (Partial Least Squares) approach was employed to test the relationships presented in the proposed model with a second order formative construct, using the repeated indicators method (Chin *et al.*, 2003; Kleijnen *et al.*, 2007).

### Measurement Results

A PLS model should be analyzed and interpreted in two stages. First, the measurement model, or the adequacy of the measures, is assessed by evaluating the reliability of the individual measures, the convergent validity, and the discriminant validity of the constructs. Then, the structural model is evaluated.

Analyzing the measurement model, in this study the item loading of each item exceeds the value of 0.707 (see Table 2). All Cronbach's alpha values are above 0.7 (0.694) and all composite reliability values are above 0.8. Therefore, all constructs are reliable since the composite reliability values exceed the threshold value of 0.7. The measures demonstrate convergent validity as the average variance of manifest variables extracted by constructs (AVE) is above 0.5, indicating that most of the variance of each indicator is explained by its own construct.

Latent Variable	LV Mean	Item loading Rang	AVE	Composite Reliability	Cronbach's Alpha
Narcissism- Exhibitionism	2.0	(0.714-0.866)	0.594	0.878	0.825
Narcissism- Vanity	3.0	(0.749-0.810)	0.622	0.831	0.704
Social values	2.7	(0.716-0.785)	0.534	0.820	0.706

Informational					
Social values Prestige	2.2	(0.713-0.785)	0.576	0.905	0.877
Passionate desire (brand love)	3.0	(0.716-0.824)	0.578	0.845	0.757
Word-of-mouth	2.2	(0.728-0.828)	0.643	0.915	0.889
Affective Commitment	2.9	(0.735-0.839)	0.618	0.829	0.694
<i>Second order formative construct (LV)</i>			<i>Second order formative construct (LV)</i>		
Weight			Weight		
Exhibitionism →	0.760***	Significant	Informational→	0.345***	Significant
Narcissism			Social values		
Vanity →	0.362***	Significant	Prestige →Social	0.743***	Significant
Narcissism			values		
Note: ***p<0.001					

Note: \*\*\*p<0.001

Table2. Measurement results

At the second-order construct level, the parameter estimates of indicator weights, which measure the contribution of each formative indicator to the variance of the latent variable (Robert & Thatcher, 2009). A significance level of at least 0.05 (in the case of this study, a significant level of at least 0.001) suggests that an indicator is relevant to the construction of the formative index (Narcissism or Social Values), and thus demonstrates a sufficient level of validity. The recommended indicator weight is > 0.2 (Chin, 1998). Table 2 shows that all indicators of both Narcissism and Social values have a positive beta weight above 0.2.

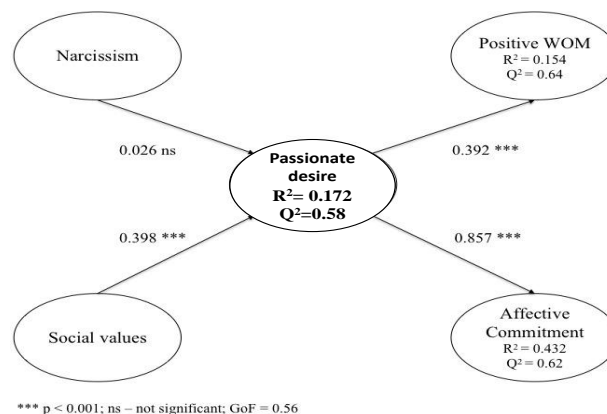
Regarding discriminant validity, the square root of AVE should be greater than the correlation between the construct and other constructs in the model (Fornell & Larcker, 1981).

	1	2	3	4	5	6	7
AVE <sup>1/2</sup>	0.786	0.771	0.731	0.760	0.759	0.788	0.802
1 – Affective Commitment	1.000						
2 – Exhibitionism	0.286	1.000					

3 Informational	–	0.3 31	0.4 89	1.0 00				
4 – Passionate desire (love& passion)		0.6 58	0.2 97	0.3 86	1.0 00			
5 – Prestige		0.3 83	0.6 57	0.6 43	0.3 77	1.0 00		
6 – Vanity		0.2 11	0.5 27	0.3 43	0.1 53	0.3 73	1.0 00	
7 – WOM		0.4 12	0.6 51	0.5 55	0.3 92	0.6 58	0.3 83	1.0 00

**Table3. Discriminant Validity****Structural Results**

In this study, a non-parametric approach, known as Bootstrap (500 re-sampling), was used to estimate the precision of the PLS estimates and support the hypotheses (Chin, 1998). All path coefficients are found to be significant at the 0.001 level, with the exception of H1 (see Figure 2).

**Figure 2. Structural results**

The results show that the Social values construct has a positive and significant direct effect on Passionate desire for fashion products (clothes and accessories). Yet, the strength of the relationship between Narcissism and Passionate desire is weak. The strength of the relationship between Passionate desire and positive word-of-mouth is weaker than the relationship between Passionate desire and Affective commitment. Although this is the first attempt to test the influence of Narcissism (its two dimensions) and Social values on Passionate desire, the findings are aligned with the study presented by Loureiro and De Araújo (2014), where social values create the subjective norm and consequently the desire to use. The fact that Narcissism did not reveal an active and strong role on

Passionate desire to use may be explained by the fact that the sample was composed by people from a collectivist Nation (Hofstede model) and so more studies should be done in order to properly understand the phenomenon. On the other hand, the outcomes are aligned with the studies developed by Carroll and Ahuvia (2006) and Loureiro (2012).

As models yielding significant bootstrap statistics can still be invalid in a predictive sense (Chin *et al.*, 2003), measures of predictive validity (such as  $R^2$  and  $Q^2$ ) for focal endogenous constructs should be employed. All values of  $Q^2$  (chi-squared of the Stone-Geisser criterion) are positive, so the relations in the model have predictive relevance (Fornell & Cha, 1994). The model also demonstrated a good level of predictive power ( $R^2$ ), particularly in explaining Affective commitment. The good value of GoF (0.56) proposed by Tenenhaus *et al.* (2005) reveal a good fit. As Wetzels *et al.* (2009) proposed, a GoF greater than 0.35 in the social science field indicates a very good fit.

## CONCLUSIONS AND IMPLICATIONS

The main goal of this research was to start to understand the process behind the creation of a fashion passion for clothes and accessories, particularly to understand in what extend do narcissism and social values influence passionate desire and then, the way passionate desire influences positive word-of-mouth and affective commitment.

The findings reveal that Social values have a positive and significant direct effect on Passionate desire. Yet, the strength of the relationship between Narcissism and Passionate desire is weak. The strength of the relationship between Passionate desire and word-of-mouth is weaker than the relationship between Passionate desire and Affective commitment. Although this is the first attempt to test the influence of Narcissism (its two dimensions) and Social values on Passionate desire, the findings is aligned with the study presented by Loureiro and De Araújo (2014), where social values create the subjective norm and consequently the desire to use. The fact that Narcissism did not reveal an active and strong role on Passionate desire to use may be explained by the fact that the sample was composed by people from a collectivist Nation (Hofstede model) and so more studies should be done in order to properly understand the phenomenon. On the other hand, the outcomes are aligned with the studies developed by Carroll and Ahuvia (2006) and Loureiro *et al.* (2012). Finally, Portuguese population is regarded as being collectivist. Therefore, they tend to make purchases according to their groups of friends and family.

Regarding managerial implications, there are several suggestions for fashion brands. First, blogs and bloggers who promote fashion brands are continuously growing in terms of readers and followers on social networks. Therefore, fashion brands should invest in product placement in the blogs with the brand identifies the most with. They should also invite bloggers to events such as new store openings;

or create events specific for bloggers, where they meet in a common place and see the new collection, having access to discounts and asking to make contests on their blogs for readers to win a prize or to get discounts as well. Lastly, blogs in Portugal should rethink their focus, since the blogs that were born as fashion and style are now converging to other topics and forgetting somewhat their origin. Nowadays, blogs and social networks are preferment vehicles where consumers search, post and follow trends or put away other products and brands. This enrolment is particularly important in more collectivist nations, where the population tends to value the social opinion and social impression.

Although the study has been conducted with caution, the limitations may work as avenue for further research, such as: (i) conducted in other countries and regions (e.g.: Anglo-Saxon countries – more individualist and thus narcissist – and Asian ones – even more collectivist, in comparison to the Portuguese culture) in order to better understand the phenomenon and understand the cultural effects of the different constructs presented; (ii) other potential drivers of Passionate desire should be considered, as well as the inter-relationship among constructs.

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# THE MEDICAL MENTORING AS A POTENTIAL MODEL OF EDUCATIONAL INTEGRATION IN THE EUROPEAN MANAGEMENT INNOVATION

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## ABSTRACT

Nowadays, in the ever changing environment of our world, the health of the Health System should be reassessed starting from within. The traditional approaches do not provide any more a realistic solution for the way in which the medical systems are behaving within the partnership with their patients and the traditional system of management.

The new paradigm should take into account a more complex feedback approach in order to implement coherent strategies and good practices, internationally recognised that could annihilate instable and negative cascade of effects, otherwise often ignored.

Here we discuss some constrains in the medical business and public policy fields - to show that *conventional recipes* for public management and strategies are not sufficient anymore when restrained only to classical contain and standards. Once explained, the complex behaviour of individuals could develop along with the societal dynamics to be modelled and entangled into the valuable assets of modern management knowledge with applications in any field.

We bring into discussion an innovative approach of prevention a thorough proactive education to manage an integrated health system converging in order to save public funds, bring a higher satisfaction to patients and facilitate the European integration through a new form of self-awareness and responsible engagement as a solid added economic and social value.

**Keywords:** *Medical management, leadership, medical mentorship, behavioural model.*

## INTRODUCTION

The services industry is meant to bring a continuous contribution to the development of any nation. The added value is solid and complex when the services development flows with the natural essence/mechanisms of the economy. The world economy knew different stages of development, some of them characterised by *manufacturing services and labour force* increase; the era of standardization, computerization and automation followed and the services industry managed to increase its influence in GDP and employment rate reduction. At present, the whole economic structure suffered deep modifications, together with the perception of qualifications and economic societal needs and this relationship no longer confirms the former tendencies. In the medical services industry, the economic *stagnation* is not anymore correlated with the *productivity* and the demand for *employability* or the *value*

*of medical services*. In other words, industry, distribution, medical services and patients' satisfaction are all in critical need for reconstruction.

The phenomenon of erosion of the structure of society generated also the decline of education as a whole and of education inside the health system too. The increase of corruption and parasitism influencing the social protection model and values are more and more active on the market and in people's life through: • an increased presence of inequalities, • the socio-economic consequences of poverty in its double form - relative and absolute, • the limited access to the health and education products all-over the country, for most categories of people, • the compromised economic competitiveness due to increased corruption and lack of responsibility and of an assumed engagement or desire to contribute, • the polarisation of incomes of the all medical actors.

Experts in the field (Albert, M. 1994) believe that individual self-realization cannot be achieved without returning to the fundamental objectives, at realities and social relations, at the community values. Dealing with new and complex trends they daily make people facing a reverse hierarchy in valuing industries and markets, technology, social media role and more.

The use of modern products and technologies brought changes into medical services too: the use of 3D printing in surgery, the assistance provided by animation and holograms, the maker movement that includes individuals and groups creating and marketing assembling products that can generate new services to be provided, the operability in real-time of mobile systems in conjunction with new integrated devices changed the world of medicine. These new trends in market development are innovatively driven and already assist the specialists to better design their work and apply improved management tools. The new solutions are reliable for the implementation of innovative models designed on realistic needs, based on better understanding of the past experience, placing in *two* contradictory approaches: one to ensure the freedom of the individual, and the other to *discipline* him through frames and standards. Thus, the modernity will get links to the new capabilities and abilities forcing people to design and apply new laws of application as the single way to adapt to a changing environment and to realize the role and functions of efficient management complexity and uncertainty.

The quality standards and sanitary regulations remain a definite condition of recognition as a sound nation and the code for access the supportive mechanisms of the European Union. Although the European Union area sets as a priority the health care of its citizens, there are still high regional differences that need to be addressed. In Romania, less than 12 % of health administrators /workers at all levels serve the rural population. Some of the countries do not have any specialist for different important medical domains – oncology, gastroenterology, surgery. This means that a physician's portfolio will address the medical needs of over 2,500 patients but may not cover at all the educational

and prevention side of their obligations. The lack of specialists, the low quality of the medical act, the inexistence of the newest innovative medicine, often very pricy, for specific or rare diseases create enough opportunities for corruption to install and act fearless.

At European level this situation is as dramatic as in Romania, when specific indicators outline a dramatic situation, as follows: in 2014, more than 670 000 persons died in the EU from respiratory diseases; one of four deaths were caused by cancer in the European Union society; one of five of the EU working-age population reported a disability; meanwhile the circulatory diseases still remained the principal cause of death for both men and women over 65 years.

The last statistics show dramatic signs for the segment of mature population, both males and females aged between 30-45 years old. The reported data show also that the health system's doors are less and less open to all citizens, similarly to what happens inside the education system. People forget about value of education and prevention as the market requirements are not based on this anymore.

Therefore medical practitioners rise should become aware of the market signs and draw the policy decision makers' attention to rethink the staff's position not only as managers of their own practice, but also as mentors for their patients.

The healthcare system is a mixed and dynamic field whose main function should become the prevention; protecting and improving the general health of the public is on the long run more efficient than to cure an altered organism.

Prevention can be done by: • teaching the medical services; • developing to patients the need of contribution, of behaving proactively and identify alternative funding sources and incomes to be used by paramedics in volunteering activities and services; • developing collateral educational activities based on each person's need to contribute to other individuals' health improvement: paramedical services, anonymous clubs for maintaining a high level of motivation, donors' network, as suggested by World Health Organization. Once making it a reality, such approach would show its importance in creating the right operational circuits between services providers, patients and the sanitary used logistics.

World Health Organization defines the three most important objectives of health services (HS): •improving the health of the population they serve; •responding to people's expectations; and •providing financial protection against the costs of ill-health.

As the health systems' performance varies from one country to another, our analysis granted the identification of factors causing specific discrepancies. Often, this comes with governments' habit of keeping the healthcare systems focused mainly on the public care and disregarding the private one.

Thus here we consider an alternative for the medical sector: to begin a deal with the representatives for a better accomplishment of their responsibilities. Everybody should recognise the value of

prevention through sanitary education as long-life learning and improving this aspect could transform it into a national branding tool. The blended social-economic aspects of health status of the population are of high importance for their life styles and health behaviour as determinants of public health policy. The above determination issued from our 6 months research reuniting the daily activity within two general practitioners' (GP) office within their network of patients amounting 2386 individuals, 808 between 35-64 years old and 549 were over 65 years old patients of which 1136 were males and the rest of 1250 were females. Amongst them, 1029 were young adults. In the end, 130 of all patients accepted to be part of the on-going survey. Their demographic characteristics [Tziner et al, 2007] are the followings: gender: all of them females; age: (mean=37.38); tenure: (mean=10.45); education: 46.2% completed high school, 43.8 had some academic training, and 10% had a university degree. The analysis and mentoring process took place during another three months and the patients considered agreed their data be monitored as an aggregate contribution to get better services provided to them. They accepted to participate at the advanced prevention monitoring and let themselves learning both in alternative fields of medicine and psychology.

According to the European Definition of General Practice / Family Medicine, a general practitioner treats acute and chronic illnesses and provides preventive care and health education to undifferentiated way at an early stage of development, which may require urgent intervention.

The data enable the analysis of public health challenges as well as the demographic and socio-economic correlations and disparities in health status and its determinants in order to provide a tool for monitoring effects of health policies.

The first parameter to measure was the prevalence of high blood pressure (HBP) and the outcome was that 48.1% of the patients had HBP. 54 new cases were discovered among the young adults. As more data regarding their gender, age, and social status were recorded we have found that 17.2% associate the HBP with heavy weight, most of them between 35 and 64 years old.

The most interesting elements were linked to the age – most were young females registered with obesity and high blood pressure, given their tendency for a solid career, correlated with an increase number of divorces and presenting the high responsibility of growing up children as a single parent. When comparing our results with the general European trends, our findings are much higher outlining the social stress influence and the lack of education and perseverance in preserving the proper health.

Thus, we considered the health status of the patients involved in the study including elements such as: the number of healthy life years, the awareness of self-perceived health as well-being, along with the daily activity limitations, the frequency of visits at the GP, the number of accidental injuries. The analysis is based on following European determinants: body mass index, the ratio of daily physical

activity, the consumption of positive and negative products (vegetables, fruits, tobacco, and alcohol). The rationale for choosing these parameters was the need to reconsider some of the regulations that govern the general practitioners' activity such as the number of daily visits or the patients' monthly visits. We focused on the quality of the dialogue between the general practitioners and their patients, their power of communication and the way they tried to convince the individuals to participate at the project, to give up bad habits such as drinking, alcohol and coffee, and to take their lives in their own hands adopting a new life style, a sound behaviour of working and living.

During the trainee program several topics were considered: • identify their conscientiousness as a tendency to set high standards of reliability and motivation to excel on the health; •

To accommodate them with the self-efficacy, meaning the personal belief that each of them meeting the training requirements [Tziner, 2007] and the medical program objectives; • develop the individual perception that completion of training will lead to valued outcomes, including a feeling of accomplishment for a greater and healthier potential. The motivation to learn has been sustained through periodical monitoring of each person's health by comparison with past data. This contributed to the group exchange data and feelings with regard at the results obtained and corrected targets for the next period of self-training.

The results came as follows: all patients took all brief intensive courses in small group sessions of teaching emphasizing the general problem solving; in the end two thirds of the groups found themselves highly motivated to go on at individual, vocational basis, given their educational skills and decide to help creating anonymous groups cancelling for HBP, all of them reported better status of individual health and a serious improvement of the results of new taken medical tests.

Following such an approach, physicians would develop paid national programs of mentoring to educate their patients and inspire them towards effective behavioural change helping them to better understand their condition and act on treating the causes rather than the effects of the disease, when that it is possible. The cost would be much less than the treatment expected and provided from national funds. They would lead the way for their patients towards a better life rather than just managing their pathology. During this study both groups of physicians and patients developed new skills, knowledge and discovered more competences. The learning outcomes approach shifts focus to the knowledge, skills and competences each learner acquired during their life or study programs at school. The new competencies were more obtained in an informal or a non-formal way (Colardyn, Bjornavold, 2004) starting from a known point of what both the doctor and the patient knows, understand, accept and decide to do, regardless the system under which a particular qualification was obtained. (Official Journal C 111, 6.5.2008)

## DEFINING THE NEW MEDICAL ACTIVITY AS A MENTORING ONE

For a better understanding of what a mentor physician is, we identified some activities adopted by the GP inside the new concept that made a big difference: he took the time to ask open and close questions and carefully listen for his patients' answers. He became a trusted guide by being and showing more empathy towards the patient enabling the share responsibility in solving the medical problem. The doctor takes on the positive role of someone who offers to help the patient to become a better and healthier person. The experienced physician proved skill in sharing his expertise, providing support and direction to the patient, looking for feedback to assess by developing a medical plan and increasing each individual's power to take the right decision to create new habits (Noe, 1988, p. 458). The medical guidance is hard to follow as it needs long term support and sustained advice.

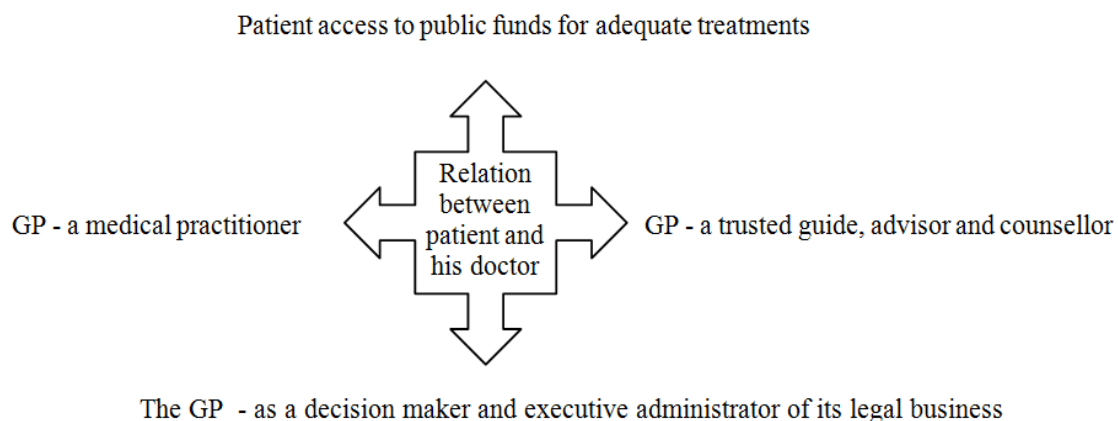


Figure 1 *The General Practitioner Cross (after Mihoreanu, Costea, 2016)*

Mentoring is a sound partnership, motivated and inspired by both sides who set up a plan, a vision, and make it a success. It requires: • trust, • patience to build a solid relation, • strength to remain inside the relation and implement the targets, one by one. Understanding and respecting each other's effort will bring the medical success.

This approach comes along with new standards of work, relevant to doctors as managers and leaders who have a specific responsibility for mentoring individuals.

The medical doctors' increase of responsibility and of assumed engagement in making changes in their patients' life put them in the situation to identify themselves as complex mentors that use traditional ideas, sometimes in a group session to serve the patients in developing stronger care bonds. The visit to the doctor continued at distance via electronic support by emails. The results were surprising. During the entire period, the number of patients developing acute symptoms of their disease diminished by 28%. The females decided to take permanent care of their weight following specific diets, designed for them and with them for a better compliance and monitored at each visit.

The experiment identified several versions to develop the medical act during the classical consultation. By accessing supplementary knowledge, patients got the possibility of choice – what

really do with their life and health; they could accept stronger medical treatment or turn into non-medical possibilities, such as: acceptance of the idea that there are more factors contributing to the evolution of disease (emotions, stress, nutrition), participating at future sessions of counselling, learning new technics of behaviour (respiration, meditation, the use of placebo treatments). This way, a new pattern of behaviour would become a symbiosis of doctor as specialist, manager and mentor.

This will bring a turn into the public use of money and public investments in: a) sustainable health systems combining innovative reforms aimed at improving cost efficiency and reconciling fiscal consolidation targets with the continued provision of sufficient levels of public services; b) investing in people's health as human capital helps improve the health of the population in general and reinforces employability, thus making active employment policies more effective, helping to secure adequate livelihoods and contributing to growth; c) investing in reducing health inequalities contributes to social cohesion and breaks the vicious spiral of poor health contributing to, and resulting from, poverty and exclusion; d) reduce the medical leaves funds on company and government behalf, based on statistic estimations by comparing with the past periods of time.

With other words, the healthcare system could develop better if the medical decision include mental and emotional assessment components, by introducing a diagnosis package of filters (psychological, mental, energetic and emotional) helping the body to reset and recreate the natural connexions within the body to administrate to the body personalised remedies and non-invasive treatments as an integrated proactive cure of sound health.

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## EDUCATION – EMERGING COUNTRIES' DRIFT IN PROMOTING MARKET SUSTAINABILITY AND PEOPLE SATISFACTION

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### ABSTRACT

Education has been widely considered forcefulness for the economic and social wellbeing of all world citizens. Through education, nations aspire to make technological progress and improve human beings lives. Through education people strive for social justice, understanding and international peace. Education makes individuals and societies better adapted to thrive in a changing world.

Education and training policy has gained particular momentum with the adoption of the Europe 2020 strategy, the EU's overarching programme focusing on growth and jobs. ... *Recognising that lifelong learning is the key to both jobs and growth and the participation of everyone in society..... "Since 2007, the EC has integrated its various educational and training initiatives under a single umbrella, the Lifelong Learning Programme"* [European Commission, 2011]. And everything was done looking at the employment market.

The present paper makes some considerations on the future of market and modern school

**Keywords:** *business driven education, entrepreneurship academia, diversity, multi-cultural management education*

### ARGUMENTS FOR A BETTER BOLOGNA CONCEPT IN EDUCATION

Across the globe, nations have been differently affected by the uncertainty and instability generated by their rush to modernity. The financial and economic turmoil has also differently influenced this switch. Therefore, social and political repercussions of these phenomena called for policymakers' special attention. The effects, alleviated by both the capabilities of government to manage change and people's attitude towards development, generated different and the general entrepreneurial propensity of society. All these fields concern also education. Macroeconomic volatility and its societal effects, has been amplified by the pre-existing conditions of several countries. The markets which were coping with the challenges of transitioning from centrally planned economies and those which were developing new strategic directions faced greater risks. Nowadays they all suffer from the medium to long term repercussions of the crisis.

The mature and highly developed countries have been exposed to the negative impact of the financial crisis and have seen their economic growth rate drop. However, the emerging countries and those effectively still in the process of transition are being forced to rapidly redefine their policies and growth models, since they lack the economic space to manoeuvre and cannot sustain the deficits and austerity measures for extensive periods of time. Large migration, long term unemployment and job security are among the most pressing issues to be addressed by countries in transition in the near future as political and social unrest are already real obstacles against sound growth [Vasile, 2011].

When assessing the characteristics of the labour market and the long term potential of economies to create and maintain qualified employment, three items of interest arise: • the skill of graduates prepared for the market needs; • the structure and requirements of employment dealing with quantitative measures and • the competences and real skills of employees dealing with the qualitative aspects. Education provides a driving force for economic, social and cultural development. Nevertheless, in certain situations it can be expensive and ineffective [Johnson, J. et al, 2012].

## **QUANTITATIVE PERSPECTIVE FOR EMPLOYMENT IN EUROPE AND ELSEWHERE**

The fundamental difference in the labour structure between western countries and those in the emerging ones reside in the manner in which the market first developed. Whereas the labour market in the western developed economies was modelled under the direct influence of business cycles and the promise of profitability, its equivalent in developing countries and those transitioning from centralized market systems, was the result of political planning, conflicts and misuse of certain economic guidelines. The relatively limited entrepreneurial propensity and the weak private sector generated at the start of the transition period in the early nineties have made the Eastern European economies more vulnerable to the entry of new multinational companies. The number of active small and medium sized enterprises in an economy directly and positively influences the proportion of the middle income classes in the population and reduces the proportion of poor people and unemployment [Tianyoung, 2007]. Hence, a cornerstone in any transition process has been the encouragement of small and medium sized firms. Furthermore, these policies need to be continued even as the transition is approaching its finality. With other words, both companies and schools need to learn a new more pragmatic style of education able to diminish the differences in economic culture, to prepare specialists worldwide recognised and highly motivated to contribute in their countries of origin, to eliminate the discrepancies between what the school provide and what the real market is needed.

Unemployment and the long term development of the labour force are dependent on central authorities and their policies. The Governments' agendas in this respect include also specific programs. In the case of transition economies, the risks are highlighted by privatizations and the fact that decisions regarding the workers had to be gradually released by the state and reallocated to the private owned companies. As studies have identified, the political influence on the development of economic systems is, in many cases, evident and can induce distortions in the operations of a free market [Desai, R., Olofsgard, A., 2010].

Last come with excellence and is determined by creativity and determination; they are typically enhanced by necessity and uncertainty, which act in the shape of catalysts. The lasting repercussions of the latest economic crisis have indicated that policies and economic principles have to be reevaluated and rewritten in order to encourage sustainable development. [Costea, Popescu, Tasnadi, 2010]).

There is a general consensus on the matter that long term endogenous growth can be sustained through the introduction of new technologies. There are scholars who describe the economic growth as necessarily connected with restructuring and reform, introducing the notion of creative destruction [Aghion, Howitt, 1992]. This generates a paradox in which structural unemployment and the rendering of certain occupations as redundant are always prerequisites for growth and development. The introduction of new products and services will always make part of the work force unemployed [Aghion, Howitt, 1992]. Consequently, sustainable economic growth is achieved only through the continuous implementation of technological improvements and through the restructuring of existing sectors. These directions require the formation of a capable and dynamic workforce, well adapted for the challenges of the modern market. In countries such as Romania, Turkey or Moldova, the labour force in the agricultural and services sector is superior to that employed in industry. A more extreme situation can be seen in the case of Georgia where more than 50% of the national labour force is employed in agriculture. Expanding the analysis to the entire region, the imbalance is evident. Furthermore, if the Russian Federation is retracted from the analysis, the total employment in agriculture surpasses that of industry. The results from the remaining Black Sea Region become 24.5% of total employment in agriculture and 22.2% in industry.

This situation depicts a significant problem going further, as structural change will continue to be a policy imperative. Consistent differences between the two groups of countries can also be seen in terms of general productivity of employment. Calculating the ratio between the national GDP and total employment, significant discrepancies emerge between countries of Western Europe and those around the Black Sea.

## **ARE THERE ANY PERSPECTIVES FOR BETTER EMPLOYMENT?**

The structure and the productivity of employment in various regions do not completely portray the entire situation. Sustainable development and efficient business activities require the formation and the maintaining of a well-educated and capable labour force.

The educational system has a crucial role in the long term development of individuals. Formal as well as informal educations provide individuals with the competences required to flourish. Contemporary business planners and policymakers need to take into account aspects such as personal aspirations, individual motivation, gender equality, freedom of movement. As a consequence, their strategies and operations have to be correlated with the increased mobility of the employees, their changing motivational drive as well as their demand for flexibility and freedom of expression.

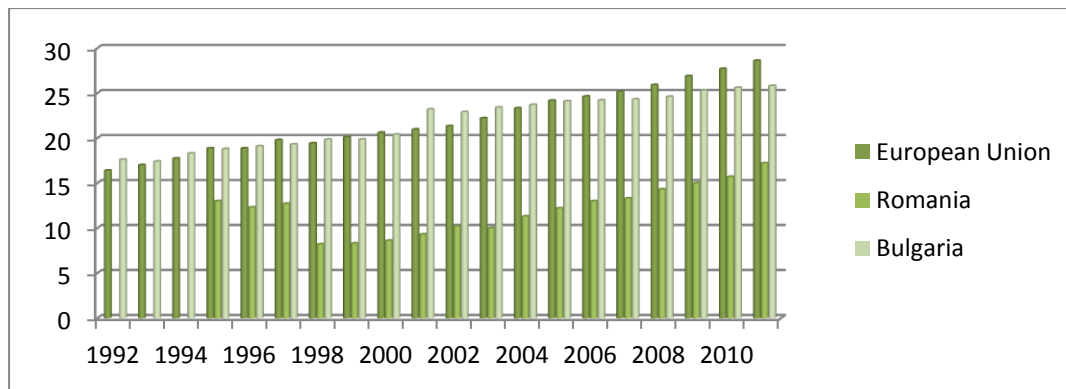
To this end, the amount of resources directed towards the superior training and education of individuals a valuable indicator. The following figure depicts the evolution of the expenditure per student as percentage of GDP per capita in the European Union, Romania and Bulgaria. The latter were chosen as they concurrently joined the EU in 2007 and have formally followed a process of convergence towards the Union's average. The first half of the period was characterized by a downward trend for the EU and Romania and a sharp increase for Bulgaria. One can note the fact that while in the last 6 years the EU average surpassed the values for the two Black Sea area countries, the variance within the group became significantly smaller.

The expenditure per student constitutes an important indicator for predicting the long term quality of employment in any region as it incorporates the investments made in the higher education of the population.

Telling information can be extracted from the previous figure in the fact that the European Union's average decreased in this period from approximately 34 % in 1998 to 28% in 2009. Placing a reduced emphasis on higher education can hide serious repercussions for future development.

The skills and capabilities of employees are expected to be correlated with the years of formal education received. Thus a valuable insight can be provided by the evolution of employment with tertiary education across the European Union and Romania. The effect that university education has on the economy is expected to grow as more jobs require this level of training.

**Figure 1.** *The evolution of employment with tertiary education*

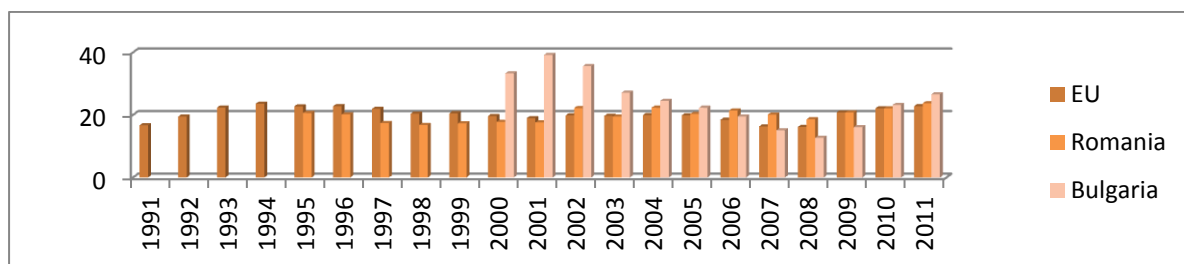


Source: based on data provided by World Bank Indicators, <http://data.worldbank.org/indicator/all>

Figures show that while improving its situation during the last two decades, Romania lags behind its neighbour Bulgaria as well as the European Union's average. Bulgaria on the other hand has managed to register values consistent with the European averages. The unemployment with tertiary education is well over 10% in the European Union and continues to experience an ascending trend. Romania also experiences a growing tendency. However, the values remain at approximately 6%. This indicator is very significant in the fact that it describes the ability of the economy to offer jobs for university graduates on the one hand and the degree to which higher education ensures job security. For the last year in the analysis, 14% of unemployed in the European Union were university graduates while in Romania the figure rose to approximately 6.7%.

The evolution of this indicator can be assessed in relation to unemployment among young people.

**Figure 2.** The evolution of unemployment among young people (15-24 years)



Source: based on data provided by World Bank Indicators, <http://data.worldbank.org/indicator/all>.

## WHAT IS NEXT? THE ROLE OF EDUCATION IN SOLVING THE PROBLEMS

As already mentioned, a growing concern across the entire European Union is represented by the rise of unemployment among young people. After declining to approximately 16% in 2008, the European average rose sharply to over 22% in 2011. The values for Romania taken in the most recent EU countries, Romania and Bulgaria, follow a similarly troublesome path. No matter the situation, education should be considered as a driving force for a fulfilling wellbeing [Johnson, J., et al, 2012]. The cost of education is never linked to its aspirations. Sometimes, it can be pricy and completely

ineffective. Scientists identified important stimulating situation that they called the *Grand Challenges* [Johnson et al, 2012], as follows: • the capacity to enable people to learn orders of magnitude more effectively, • the possibility to enable people to learn at orders of magnitude less cost, and • the advantage to demonstrate success by exemplary interdisciplinary education in complex relation with economies and societies. The mixture of theory with entrepreneurial experiments will translate into: • analytical and computational practical tools for researchers, practitioners and leaders; • procreative principles for resilient educational new systems inside of which the environment is centred; • innovative scalable, yet personalized, learner engagement and assessment. Since in Europe and elsewhere the higher education is partly public, partly private, other important elements should be considered for a better understanding of their capabilities and opportunities. [Johnson, J., et al, 2012]]. At 26 years since the former central planned economies are off, the educational culture is still suffering the old inspiration, imposing abusive approaches and practices in correlating the good with public universities and the bad with the private ones. The way the decisions are taken and the education budget created attract an anticompetitive approach, diminishing both the value of private universities and their resources to be used for the benefit of the entire society.

In the same way, the brain drain massive flow towards the developed western countries contribute to the creation of an even bigger gap between societies, economies, schools, to the application of an unethical treatment when similar behaviours are considered. According to different studies, only last year, 35 per cent of economists were working outside their home countries. The majority of economists went to work to the US, Germany and France (11%), followed by Switzerland (8%), Italy, Netherlands and the UK (6%). The academic fees, the way both universities and academics are assessed; the unequal number of European or national agencies for Quality Management evaluation are as many factors of limitation for a sound education. The educational system is always searching for the best model to apply.

The understanding of current limits of development impose a new paradigm, a highly creative once, accepting changes and implementation of super non-linear dynamic network as catalyst for a sound growth in which complex interconnection of concepts and domains, institutions and their complete visions of development be built close to the realistic situation of life and society, beyond the scientific theories and sustaining researches. A sort of shadow new paradigm is nowadays influenced by what is happening in the business area where a very special form of partnership is developed and called “alliance”. They want to be taken for formal association created between two or more bodies who agree to cooperate for pursuing a set of agreed upon goals, for mutual advantage, for enhancing competitive advantages or to meet a vital business need while remaining autonomous organizations in order to keep the best position in the market and do not lose the big slice of profit.

Under these alliances, each partner has some competences and strong points and they are put at the partner's disposal, in order to realize the objectives set together, in an environment where they could not face alone, because their resources are limited. One of the major aspirations is attaining synergy, meaning that each partner hopes that the benefits from the alliance will be greater than those obtained from individual efforts. The alliances allow companies to concentrate over the key aspects of their development, offering a great flexibility and lesser risk exposure comparative to the case when they should have taken alone responsibilities.

Thus, at international level, different sorts of alliances appeared in the market:

- *Total alliances* constituted when partners decide to cooperate in multiple stages of the value chain, such as research-development, designing, marketing, distribution, and, by conjugate efforts lead to a rapid growth;
- *Functional alliances* coming into being in one domain: research, production, production, finances;
- *Marketing alliances* formed by partners sharing services and experience they possess in the field.

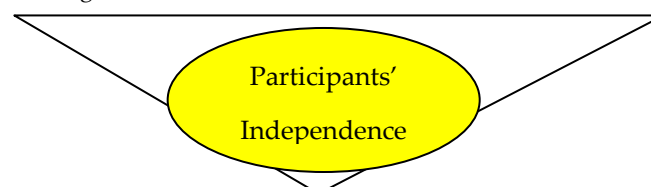
A special form is *piggybacking*, where a company (rider) has the chance to distribute its products by using the carrier distribution network – already active in the hunted market - and accept the alliance as a way to increase its profits, under the condition that the products sold should come from complementary and non-concurrent domains.

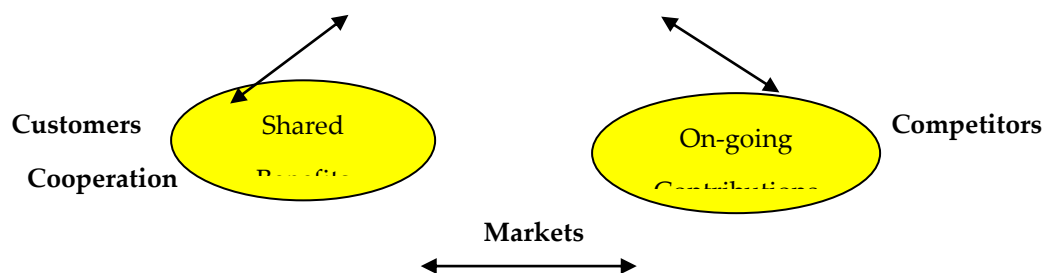
In the market, companies use to use different ways to create value: • setting up new businesses, • accessing new markets, • acquiring skills, • gaining scale, and • improving their SCM to create stronger networks.

Through strategic alliances firms access key resources, like the partner's technologies, financial funds, new markets, management skills, qualified human resources. They also obtain increased brand awareness through partner's channels, can achieve scale, critical mass and momentum, can reduce research and development time and accordingly they can launch new products at an early stage on the market comparing with other competitors.

Several elements are also considered prior to plan, design, enter and manage alliances over the time: •the validation of their foundation; •the appropriate design; •the right time to start; •the detailed operations; •the postponement. This approach put all partners in specific relations regarding their independency, the connection to benefits and obligations.

**Scheme 1.** *Global Marketing Relations*





Source: Keegan W., Green M. -Global Marketing, Pearson Education, USA, 2003, page 341

Specific alliances often bring benefits to their partners, such as: • access to distribution channels, • presence on the international market, • to their partner's capital, products, technology, intellectual property, management skills. They also bring increased brand recognition via their partner's channels, significant savings linked to product development time and faster-to-market products, reduced R&D costs and risks, rapidly achieve scale.

**Table 1.** Determinants success in international alliances Motivators

Determinants:	Motivators:
1. Objectives	Alliances use the mutual advantageous situations, according to common needs
2. Strategy	Alliances may develop in multiple version if capable to avoid conflicts
3. Equity	Discussions and consensus should be the norm.
4. Culture	Personal relationships are important, as well as establishing a common set of values
5. Governance	Innovative structures are welcome, if they counterbalance the complexity of management systems
6. Administration	The taking decision process is guided by a common understanding and acceptance of problems

Source: Adaptation after Global Marketing Strategy, Harold Chee, Rod Harris, Pitman Publishing, 1998, p.321

Under the appropriate models, business can grow. Therefore modern education should let itself linked to adequate models to better fulfil its requirements and needs: incubators of young ideas, complex logistics of virtual campuses where new variables validate social structures and scenarios [Johnson, J., et al, 2012]], international educational leadership opportunities to:

- develop expertise and foster.
- work as intellectual leaders, honest brokers to accelerate progress towards these goals.
- facilitate the development of partnerships, monitor progress, and track the achievements of countries and the international community towards the Education for All goals.

Despite their aspirations, millions of people have inadequate access to high quality education or the outcome of their educational is disappointing, as we now discuss. Educational contexts must be treated as multilevel socio-technical complex systems. According to us, educational change is supposed to involve: • super networks of systems including schools, universities and companies with tasks in education; • government departments and provincial administrations; • individual learners and communities of learners; commercial providers and businesses; ideas, data and • theories; • and much else besides. This is why such an approach can't ignore anymore the role of complex science.



Events look to be similar in all parts of the world, in European Union, in former communist countries, known today as emerging countries, in Africa, in Asia.

ChIndia is a blend concept that refers to China and India together in general. The credit of coining the now popular term goes to Indian Member of Parliament Jairam Ramesh. China and India are two neighbours among the fastest growing major economies in the world. Together, they contain over one-third of the world's population (2.5 billion). They are considered possessing the highest potential for growth in the next 50 years in a BRIC (Brazil, Russia, India and China) report. The perceptions of their economic strengths seem complementary: – while China's strengths rely on manufacturing and infrastructure, India has better services and strong information technology. From the technological point of view China is hardware producer while India is a software designer. From the markets point of view China has advantages in physical markets while India is a financial markets recognised player. The countries also share certain historical interactions - the spread of Buddhism from India to China and British-European trade on the Silk route are famous examples.

The commonly cited complementary nature of China and India's economies is also being questioned as the service sector in China is rapidly growing, while India's manufacturing sector has seen rapid growth in recent years.

Over the last two decades the world of higher education and research in economics in India has been mesmerised by a series of conferences and collaborative researches generously sponsored by the World Bank and its "development partners". The result: A particular kind of crony intellectualism has flourished, strengthening neo-colonial hegemony in the realm of economics. In the other social sciences, the postmodernist claim has made huge inroads, namely, that any "narrative" is as valid as any other. But, parallel with the spread of crony intellectualism, the integrity of India's liberal-political democratic system has been vitiated; it is now a money-driven system, and the media is closely involved in the dissemination of the propaganda that is necessary to legitimise it.

China also has a head start in international marketplaces and is a large investor in Africa. Asian Youth joins school districts in North America and Asia to share best practices and to work together to overcome common challenges.

A new World Bank Report on Education Financing in Indonesia shows that spending patterns need to be altered to increase quality of education and improve learning outcomes. *The public expenditure review assesses the progress Indonesia has made in education over the last decade and highlights the major challenges that remain. The report highlights the need for a greater focus on improvements in the effectiveness of spending if the recent increases in public education investment are going to deliver improvements in education quality,*" says World Bank Lead Education Specialist for Indonesia, Mae Chu Chang, in a launch event

jointly hosted with Paramadina University, the Government of the Kingdom of the Netherlands and the European Union.

Gender gaps in education and health have been closing but important disparities remain in access to economic opportunity, voice and influence in society.

Many societies gradually moving to dismantle gender discrimination, yet more can be done, by promoting the gender equality in access to: • productive resources; • economic opportunities; • voice in business and society. This way a higher contribution and more representative quality can be sustained in both decision making and development.

With other words, we are in the global innovation age, which requires a new set of skills for success.

It provides a path to develop critical knowledge, skills, and dispositions in the academic disciplines as well as in a multidisciplinary way, as an Open Education Resource including academic training and leadership coaching under the entrepreneurial university umbrella.

## **THE PRIVATE PUBLIC ACADEMIC PARTNERSHIP – THE ACCELERATOR OF REVIVING THE LABOUR MARKET AND MATCH MAKING BETWEEN ASPIRATIONS AND NEEDS**

While higher education cannot remain a simple panacea of the socio-economic dilemma, as the previous indicators suggest, there are reasons to support a continuation of efforts to make this type of formal education more available for individuals and adapt the programs to contemporary job requirements. This implies: building on other work on ICT-enabled changes, giving to education deeper insights into social organization and the behaviour of individuals. This will be at the level of local societal structures - institutions at meso levels and global structures and policies at macro-levels and will be able to offer:

*Personalized learning and teaching.* The notion of personalized learning attempts to address these issues, with the emergence of a new class of software known as Recommender Systems [<http://recsys.acm.org>]. Efforts to model aspects of educational domains and learners take a number of forms, including user models comparing the inferred cognitive model against an ideal model of smart tutoring; presentation layers which then tune content dynamically if progress is deemed to be too slow (adaptive educational hypermedia; and the use of data mining for patterns that correlate user behaviour with learning outcomes (educational data mining). More intelligent software thus seeks to provide a student experience of targeted feedback and personalized tuition [Johnson, J. et al, 2012].

*Stigmergic learning trails* [Johnson, J. et al, 2012]. As an illustration of the kind of disruptive innovations that complex systems science can bring to education, consider the work begun in the early 2000 when the leading-learning company Paraschool based in France was looking for a system to enhance site navigation by making it intelligent and adaptive to the user. They needed an autonomic system because their student numbers were rapidly growing (the number of registered students went from 50,000 to 500,000 in 5 years) as were the number of topics covered by their software (all topics of French secondary education). It was thought that a solution to their problem could lie in social swarm techniques such as those developed by ant colonies. These have been much studied by the complex systems community as examples of complex systems

*Automated assessment.* As noted above, traditional methods of collecting data on students are very crude. They can also be non-scalable and very expensive. A large part of a student's learning process is governed by assessment. Automated assessment provides the possibility of increasing the amount of feedback a student can receive during the learning process (possibly automatically generated) and so receive greater support for their learning. There are three main approaches to automated marking: •multiple choice questions, • short answer marking in free text, and •essay marking.

*Learning analytics.* The rapidly developing field of Learning Analytics is concerned with these challenges with respect to education. It seeks to exploit educational big data to deliver as close as possible to real-time feedback to stakeholders in the system, from individual learners, employees and citizens, to institutions, regions and nations. In complex systems terms, the creation of rapid feedback loops at many levels could transform the system's capacity to sense and respond effectively to the environment.

*The virtual classroom as Virtual lecture theatre and the virtual laboratory.* One reason for conventional education being expensive but ineffective is that it is conducted in geographically distributed purpose-built spaces with specialized equipment. In our universities it is common to have hundreds of students assembled in a large purpose-built theatre listening to a more or less inspiring lecturer. This social structure precludes interaction between individual students and the lecturer, and assumes that everyone in the audience is assimilating information at the same speed. Of course the reality is that apart from listening to the lecture students are engaging in many activities including reading their emails, chatting and even sleeping.

*Social networking and peer-to-peer teaching and learning and computer based assessment.* One of the best ways to learn is to teach others. Although some universities use this approach with members of one cohort of students teaching members of subsequent cohorts, the motivation is usually to relieve senior teaching staff of some teaching duties. There is clearly much to be learned about the pedagogic

benefits of peer-to-peer (P2P) education for students in the roles of teacher and learner [Johnson, J. et al, 2012].

*Get the students aware and responsible for learning.* The conventional motivations for learning include: • parent, family and social pressure; • love of learning; • expectation of better job prospects or promotion in one's career; • and peer rivalry and competition. These pressures work well for many students most of the time, but they cause problems for some students some of the time, and they are completely ineffective for a minority of learners for whom demotivating factors can be stronger, e.g. discouragement or hostility to learning by parents, family, and social groups; hatred of learning, because it is boring, frustrating, irrelevant, etc.; low job expectations, or 'alternative' job expectations such as crime; and negative peer pressure or a culture of low achievement.

ICT-enabled social networking is changing the way that people form groups allowing individuals to transcend geographically local social structures and form social networks outside the limited confines of the people in one's neighbourhood. These more virtual societies are often bound together by social structures that include the dynamics of individual relationships [Johnson, J. et al, 2012]. There is a large and increasing body of knowledge of reputation systems, and this will develop considerably through FuturICT over the next decade. This research will be invaluable in helping to motivate students to learn using the Education Accelerator.

*Develop alternative teaching by drama roles and games.* While young people enjoy informal communication and playing different imaginative role, the computer games are extremely popular with many people. A study of people playing computer games in 2008 found the numbers of internet users playing computer games once a month or more in the largest European countries were: Germany 29.3 million, UK 23.8 million, France 20.2 million, Spain 14.6 million and Italy 12.9 million. The reasons such large numbers of people spend so much time and effort playing computer games include personal challenge through competition and a sense of achievement at doing something well. It has been found that this motivation can carry through when gaming techniques are applied in education. One such experiment is teaching English in the context of computer games. The results so far suggest that students find this approach to language learning much more attractive and motivating than conventional methods.

*Spaced learning.* Trans-disciplinary neuroscience and educational research into the dynamics of learning can identify key triggers that allow valuable new innovations to emerge. One is 'Spaced Learning' that can reduce learning times by a factor of 10 or more. It is based on neurological studies of memory acquisition demonstrating the intracellular changes in neurons that lead to late Long Term Potentiation and long term memories, difficult, demanding and unpleasant.

Today more than ever we need to *rethink education*. The Education Accelerator may deliver more effective and less expensive learning, enabling societies worldwide to educate all their citizens within the available resources. If the traditional education is done only in the formal way, under public and institutional patterns, the actual conditions of economic globalization involve persuasive connection between economic growth and natural resources' demand growth, yet, dynamics of such interconnection are far from being fully grasped. This can be an issue to implement the real entrepreneurial academies, and franchise them along regions as in a lace of pragmatic excellence.

Increasing integration of economies, geographic mismatch between supply and demand added to the changing geopolitics fuel higher security concerns in the energy sector. Consequently, universities are to adapt their role and responsibilities in securing the main resource to supply to the market, that one imposing fast adaptation, secure leading and net value creation. Universities need also to adapt with conditions of global competitive and political pressures as they have to develop academia as excellent business suppliers. Universities developmental role reveal a shift from a social actor to more of orchestrator of human capital resources assigning a central role to education in the process of wealth accumulation.

In this context the collaborative partnership should consider to provide market and society friendly incentives, infrastructure, operational education, technology as well as guaranteeing, investment security. As to meet these requirements, universities have to understand that nothing can be done beyond the excellence within collaborative partnerships. Excellence may not exist anywhere but it can spring everywhere.

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## PROFILING CHINESE CONSUMERS – IMPLICATIONS FOR MNCs SUSTAINABLE PRACTICES

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### ABSTRACT

The open door policy encouraged growth through investment for China. Multinationals have seized the opportunity of this lucrative consumer market mainly because of its large population, a rapidly growing middleclass, and rising disposable incomes. Associated with this growth arise problems of environmental degradation. China faces a devastating environmental problem and this seems to be growing. There appears an urgent need to address these issues through game changing creativity by understanding consumer's consumption needs. Particularly because cross cultural differences exist in international markets, recognizing these differences become fundamentally important. As solutions to environmental degradation require urgent changes in human behavior and cultural practices to reduce consumption, understanding these consumption views become very necessary. MNCs have been categorized as sources of advanced technologies and quality products in China – but these advantages are weakening. It is now questionable whether MNCs can provide products with quality, sustainability and profitability. Against this backdrop, several views of consumption are proposed through a two dimensional conceptualized model that shows which consumption approaches requires strong or weak sustainable value chain strategies against their intensity of the willingness to adopt sustainability. Based on this model, marketers can better understand how to project their strategies towards increasing sustainable consumption amongst consumers. The article presents an overview of Chinese consumerism. It discusses the crux of environmental crises in China and the consumption behaviour in this market. This model provides the basis for future empirical research in a dynamic market.

**Keywords:** *China, Consumer, Environmental degradation, Consumption, Multinationals*

### INTRODUCTION

A KPMG (2012) study of the future for MNCs in China reports “the shift from “cheap China” to “consuming China” means firms will be looking to produce less in the country’s factories, and instead sell more to its consumers—ultimately a more challenging business model, but one that offers significant rewards”. To sell to the Chinese consumer, one needs to understand the Chinese consumer and what drives consumption. It is estimated that China will be home to more large companies, those with a revenue of over \$1.5 billion, to be headquartered in emerging markets than in the US or Europe (Dobbs, Manyika and Woetzel, 2015). Implementing the open-door policy and economic reforms in China since 1978 has had a significant effect on China’s economic performance and foreign investment (Chung Chen, 1995). The introduction of the Open Door Policy by Deng Xiaoping in 1978 allowed for China to open its world for trading. By the mid 1990s most of China was open for trade and the government policies encouraged growth through investment by providing benefits such as reduction in taxes, tariffs and regulations, following which rapid changes in the market occurred allowing for additional investment. Joining the World Trade Organization in 2001 created more changes and a consistency within foreign trade rules. Multinationals see China as a lucrative consumer market mainly because of its large population, a rapidly growing middleclass, sustained economic reforms and rising disposable income (Wang and Lin, 2009). Foreign investment in the country has also improved lives through creating jobs and disposable income, reactivating the commercial markets, and has led to the improvement in infrastructure around the country (Yu, Chen & Sun, 2010) thus giving rise to consumerism.

## **ENVIRONMENTAL CRISES IN CHINA**

Associated with any growth and development arises environmental problems, prior to this not only Multinational companies (thereafter MNCs) but also other firms need to address these issues either through game changing creativity by understanding consumer’s consumption needs or by optimizing environmental goals within their existing businesses.

As we move into more emphasizes on a sustainable society, the Chinese consumer market can barely be ignored with over 1.3 billion people and several MNCs wanting to enter this lucrative market. In relation to the maxims of modern international business – think global, act local may be changed to localizing priorities to take precedence to meet the demands of obtaining sustainability (Emery, 2011). Multinationals face enormous pressure in China. More recently it has been reported that the Chinese market is maturing, wage costs are rising and with the introduction of environmental standards as consumer’s get more sophisticated are now driving the green demand (Economist, 2015). Sustainable marketing is the new, standard and conventional way of progressive marketing. It is marketing that has the potential to change businesses from within through consistent demands from the consumer;



sustainability is changing the face of marketing. In part, sustainability can be achieved through a change in the consumption habits of the public (Emery, 2011).

China faces a devastating environmental problem. Chinese scientists have warned of the increasing toxicity in their air pollution. There is a call for strong measures to be undertaken as it is affecting their food supply, health, agriculture. This has resulted in the economy to shut down such as schools closing, flights grounded, highways restricting traffic and keeping the tourist house bound. While the environmental problems are colossal, this research looks at a prominent underlying consumer issue in sustainable consumption. For MNCs to encourage more sustainable forms of consumption it is necessary to understand the nature of consumption and the rationale behind those consumption patterns. Particularly because cross cultural differences exist in international markets, one should be able to recognize these differences. As solutions to environmental degradation require urgent changes in human behavior and cultural practices to reduce consumption (Oskamp, 2000), understanding these consumption views become very necessary.

Understanding the underlying motivations of Chinese consumers is important for foreign investors (Madden, 2009). There is a significant need from a global perspective that Chinese consumers adopt the pathway of sustainable consumption. While this may be unlikely to occur on its own but with efforts from all stakeholders that involve central and local government(s), businesses and individuals something can be achieved (Thøgersen and Zhou, 2012). Even though there is an expansion of private consumption in China, there are limited publications on Chinese consumer-citizens' adoption of or willingness to adopt sustainable lifestyle elements (Chan, 2001; Yin, Wu, Du, & Chen, 2010). For example, at the moment the government by adopting the green building policy as a national strategy is taking precaution to reduce energy consumption by developing sustainable cities (Guo et al., 2010; Malmqvist, 2008; Yuan et al., 2013). Besides, apart from other attributes, green dwelling attributes were rated as an important factor for homebuyers purchasing an apartment in Nanjing. Other variables such as socio economic status of homebuyers that determine their purchasing power and willingness to pay for green attributes also acknowledged that only the rich are prepared to pay for green apartments. The problem lies in the damage caused to health and to all the idea of health was important in terms of unpolluted environment and non-toxic construction materials (Hu, Geertman and Hooimeijer, 2014). Clearly, health plays a critical role in planning sustainable cities (Duhl, 2005; Kenzer, 1998). Even though research shows that health concerns and food safety received the highest motivating scores, other important factors such as high quality and environmentally friendly products (McCarthy, 2015) also contribute to China's sustainability.

Against this backdrop the objective of the paper is to review Chinese consumption and propose a two dimensional model based on views of consumption and relationship with sustainability that identifies whether strong or weak Sustainable Value Chain Analysis strategies can be applied against their willingness to adopt. In the following sections, the paper gives a brief overview on Chinese consumption patterns; applying theories from consumption literature, we conceptualize the relationship between Sustainable Value Chain analysis strategies and adoption of sustainable products. We apply this conceptualized model to China as it has an evolving and volatile consumer base; this proposal can lend itself to other MNCs within other emerging markets and open avenues for future research.

## CONSUMPTION IN CHINA

The opportunities faced by international marketers of consumer goods and services have never been greater. With an increasing consumer's base in Big Emerging Markets (BEM) such as China, the need to understand the consumer and their consumption behaviour is imperative. China's 12<sup>th</sup> Five – Year Plan aims to increase domestic consumption and is making it a top priority for the future (Carew, 2006). According to Carew (2006), the plan aims to increase stronger domestic demand by reducing China's trade surplus, increasing the currency to rise, and decrease savings into the inefficient banking sector who's loose lending practices has led to overinvestment. Yet, despite these common goals, the market share and profit potential are still attractive to foreign investors, who rely on the strength of the Chinese consumer population.

The Chinese consumer's current consumption behaviour is a result of many years of social and economic change. While in the era from the 1950's to the late 70's, the government had taken complete control of the people. Strong Maoist ideology prevailed and socio economic policies prohibited consumerism. The Communist Party encouraged families to have simple and frugal gatherings with simplistic foods (Parish and Whyte, 1984: 139). The Chinese people were encouraged to work for the betterment of the country, while individualism was seen to be going against the party. Clothing was functional and practical and personal adornment was discouraged (Gamble, 2001; p. 91). The late 1970's and early 80's economic reform gained momentum and they encountered great changes. The early 1980s, after years of shifting ideological campaigns the Party could not use ground-breaking rhetoric and political campaigns to urge the masses. As Richard Madsen concisely stated, the Communist Party was 'ideologically dead' (1993: 183). Instead the Party's elite decided to increase the economic prosperity of the public – to adapt Marx, 'the hope is that material prosperity would act as the opium of the masses' (Gamble. 2001 p. 92-93).

More recently, the Chinese consumer market is rapidly changing not only from a behavioural perspective but with monolithic amounts of funds being invested; one can't help witnessing major historical transformation that has seen the consumer wealth multiply (Van Dijk, 2011). For foreign companies trying to enter into China's volatile consumer market, the possibilities and the drawbacks in this process are in the extremes (Carew, 2006). Foreign investment in China affects local manufacturers, these manufacturers get an opportunity to compete on the global front (Yu, Chen & Sun, 2010); on the other hand they obtain a lesser market share and need to continually improve in quality. It is reported that in 2010, around 445,244 foreign invested enterprises in China, which employed more than 15% of the urban workforce. This represented roughly over 55 million workers (Morrison, 2012). More recently, foreign investment patterns are changing, there are risks associated with China becoming more technologically competitive, increasing purchasing power, more quality oriented and advanced hi-tech, manufacturing innovation and emphasis on environmental protection (Chen, Newburry and Park, 2009).

Consumerism on the contrary tampers with ones sense of wellbeing with a quest for values and having the money to satiate these drives to meet personal happiness (Lupton, 1997). The government still has plans to increase consumerism in China, by curbing on traditional saving habits. This has resulted in the government increasing spending in the area of health care and pensions to encourage households to save less for these items. To increase economic spending the Government has introduced a low tax system. It is forecasted from 2012 – 2022, Chinese households will increase consumption by 17 trillion yuan (Morin, 2007). Story (2010) contends that the Chinese save because they cannot trust the government to provide the medical care they may need, as their policies towards health care and its legal systems are still developing. The policy that has changed the way consumers think was the introduction of the one child policy. This enables the child to become a big consumer of products as they parents and grandparents focus all their money on the one child. Other influences which are the consequences of the consumer habits of modern day Chinese are the younger Chinese who desire to be 'white and western'; the younger generations want all the things their parents could not get from the west. The ideal of *guanxi*, and the fact that the Chinese consumer is often a better saver than their western counterpart also impacts the buying behaviours of the Chinese consumer (Gamble, 2001). Having said that, the alteration of the one child policy that has been newly introduced will put China in a different position, however, the economy and public policy largely determines what makes the Chinese consumer, who they are and who they will be.

Confucianism has a deep history in China, and it is connected to the consumerism of the Chinese as it promotes the values of 'face and social status'. This mean consumers are more likely to buy high end products to help give them respect and acceptance in their social groups. This can be demonstrated

why owning high luxury goods makes the Chinese very brand aware (Jap, 2010). Research by Jap (2010) indicates consumers believe that high end products attracts attention, recognition and acceptance, respect from others, social status and self-confidence. Besides owning the same products as people helps with building relationships or *guanxi* and don't face embarrassment by their social groups. These concepts and values give rise to a significant psychological burden on the Chinese consumer to keep 'face' or to be acceptable into society (Jap, 2010).

Prior to the economic reform, there was similarity in clothing and earnings, meaning that they lived similar lifestyles and was not concerned about self-image. After the reforms, there are several segments (some of which have still remained untouched). Consumers now hold individual attitudes, opinions, values and lifestyles which make it complex to cater to these segments.

## SEGMENTATION

There is no doubt that the Chinese consumer market is sophisticated extremely diverse and requires careful analysis to understand its consumers. China shares a common cultural heritage, due to a socialist command government. Although China can be regarded as a fairly homogeneous market (Cui and Liu, 2000) it is not one market and homogeneous market may be only a perception, as it is in fact made up for 22 distinct markets and with variations in climate, geographic, income, history and culture (Chan and Zakkour, 2014).

A survey conducted by Mckinsey (2011) showed that 45% of the Chinese people surveyed agreed shopping is one of their favourite leisure activities compared to 25% in America. Whereby a few years ago that wouldn't have been the case, showing the effects of a changing consumer. Their attitude to goods have changed from looking for goods with high functional attributes to ones that have a little something extra, may it be a brand name or portrays a certain image. Nonetheless, the Chinese consumer can be price sensitive when it comes to consumer goods that do not evoke a sense of status. "Brands that don't matter because they aren't used to mark status, for example food and other commodities, have a much harder time developing loyalty because, when everything else is the same, the consumer will buy based on price" (Story, 2010; p. 178). There are controversy surrounding willingness to pay higher prices for green food, with some research showing consumers are willing to pay a premium (McCarthy, 2015) with the others reporting that high prices are an impediment to purchase in China (Yin et al., 2010; Marchesini et al., 2010). Although they would prefer to purchase the real thing rather than counterfeit brands which may not be affordable, many are willing to save up to acquire such goods; they don't buy on impulse, more particularly for products with a greater value as they are both brand conscious as well as price conscious; a survey reported that one-third of the visitors to a Chinese shopping mall did not purchase any thing (Li et al., 2003).

Wages in the eastern part of China has increased significantly, resulting in a rapid number of Chinese consumers switching from lower class to middle class status (Zhang et al., 2008). Consumers that enter new middle class status, tend to purchase affordable widely known premium products that represent their new social status (Zha, 1996). While the Chinese consumers on average are getting richer so are their spending habits. The average disposable income of Chinese consumers in 2010 doubled in 2014. From an income perspective, this can be segmented into three types of consumers: value consumers, mainstream consumers and affluent consumers (Gamble, 2001). Value consumers are Chinese who can just afford to pay for their needs, with a disposable income of \$6000 to \$16000. Mainstream consumers have a disposable income between \$16000 and \$34000, and are regarded as reasonably wealthy households (Chan & Zakkour, 2014). Affluent consumers earn more than \$34000 and represent two percent of Chinese urban market, or 4.26 million households, which on average is 15 million people (Van Dijk, 2011).

Moving from the traditional 'low-cost everything' mindset, to the now contemporary 'value-driven' consumer thought process can lend itself to a different way of positioning a Chinese consumer. The market could be segmented on their behaviour into two main streams: value driven consumers and new entrants to luxury market consumers (Chan & Zakkour, 2014). Consumers in the 'value driven segment' are noted to typically earn \$15,000 to \$30,000 per year, and are regarded as the 'sweet spot' for Chinese consumerism (Zhang et al., 2008). While the value driven consumers shop less frequently but spend large amounts in single transactions, they are more sophisticated and will pay premium to get what they desire (Cui & Liu, 2000). These are often categorised as young consumers, who are in fact tech savvy and resort to the internet for comparing deals. Nearly 20% of the time, they will compare products and price on the internet and buy through a smart phone (Chan & Zakkour, 2014).

In comparison, the 'new entrants to luxury market' Chinese consumers' account for 27% of worldwide purchases, this is expected to increase to 34% after 2015 (Zhang et al., 2008). It is predicted that China beyond 2015 will account for the largest consumer of luxury products. At one time they accounted for 20 % or (US\$27 billion) global luxury sales (Atsmon, Dixit, Wu, 2011). It is believed that these luxury consumers like to differentiate themselves from traditional new Chinese buyers by buying sophisticated niche or exclusive brands, which tend to be even rarer as compared to other luxurious items (Chan & Zakkour 2014). China has long been recognised as a collectivistic society in which people treasure tradition, benevolence and conformity (Kim & Xiao, 2009). Displaying wealth has become a trend in China, and we think this will continue to translate into growing purchases of luxury goods for oneself, or as gifts" (HSBC 2011). Past research has suggested that people in collectivistic cultures, as opposed to those in individualistic societies, may hold different beliefs or attitudes toward luxuries (Dubois, Czellar, & Laurent, 2005; Tidwell & Dubois, 1996). China is perceived as

representative of collectivistic culture, the Chinese consumer has keen interest in luxury consumption (Wang, Sun & Song, 2011 p246). Luxury brands that can draw out status have had a powerful effect on the Chinese consumer's buying patterns. "Brands that are seen, that demonstrate status, are the ones that evoke fierce loyalty, and those include luxury products and high-end home furnishings and appliances" (Story, 2010; p: 177-178).

It is believed that consumer motives for adopting new ideas are the product of the media and other cultural and legal dimensions which is entirely different from the western world (Shaw & Clarke, 1998; Solomon, 2008; Usunier & Lee, 2009). (e.g. Kim, Pan, & Park, 1998). A study by Wills (2008) identified that when Chinese consumers shop for western products they alter their buying behaviours with a different mindset, adopting a more dynamic, proactive and assertive buying behaviour and believe having "guanxi" with the shop assistants is less important as compared to situations where they are shopping for Chinese products. When purchasing Chinese products consumers tend to feel more relaxed and comfortable, consumers also have a tendency to shop in groups and seek peer review of the goods before purchasing. Notably, there are contradicting views. Traditional values don't seem to disappear so easily especially since coming from a culture that is thrifty, more particularly the emerging middle class consumers demand quality as well as cheap prices (Wang and Lin, 2009). Resistance to Western culture and lifestyle have had periodic upheavals, for example, a Starbucks coffee shop has had to close shop following an online campaign by a China Central TV anchor challenged the presence of the store's operation in the city. The news anchor objective was to preserve the Chinese cultural identity (Wang and Lin, 2009; Goldkorn, 2007). It was observed by revolutionary western Marketers that Chinese consumers would purchase products that met Chinese cultural standards (Hamilton, 1977). Today there is resurgence to the traditional culture, a patriotic emergence rising among Chinese consumers retaliating against foreign manufacturers. This questions whether Western influences have reached their limits (Wang and Lin, 2009). Given above is the evolving Chinese consumer that can be segmented into various groups, they have different tastes, lead different lifestyles and at the same time are also patriotic with their views. Given below we present a model that attempts to capture some characteristics of this consumer and profile them against their consumption behaviours.

## MODEL

There is a societal drive occurring in both developed and emerging markets for realizing increased corporate sustainability (e.g., London and Hart, 2004; Park and Vanhonacker, 2007). Keeping in mind that as markets evolve from being manufacturing-focused to becoming more consumer-focused,

MNCs should identify that sustainability requires diverse mindsets and innovative business models to access broader markets (Chen, Newburry and Park, 2009). Chen et al. (2009) presents new challenges for the Chinese markets based on the belief that MNCs investing in China relied on production based have now to move to consumer based focus; intensity in competition is increasing, lastly MNCs have been categorized as sources of advanced technologies and quality products in China – but these advantages are weakening. It is now questionable whether MNCs can provide products with quality, sustainability and profitability. Sustainability is at the higher end of the spectrum. Given these challenges, this research proposes the following model on sustainable consumption. While there is emphasis on MNCs and sustainability both in terms of ecological sustainability as well as a broader approach that considers functional and operations of these firms from a sustainable perspective, it somehow misses a strong understanding of how sustainable consumption can be used to position consumption. Following the definition of Sustainable Consumption at the 1994 Oslo Symposium: “..the use of services and related products which respond to basic needs and bring a better quality of life while minimizing the use of natural resources and toxic materials as well as emissions of waste and pollutants over the life cycle of the service or product so as not to jeopardize the needs of future generations.” As China plays a critical role in addressing their environmental problems, this research has focused on a broader area of consumption by proposing a framework to position consumption, with the intention of targeting consumers. In essence, a two-dimensional model is proposed to understand the complexity of Chinese consumption and a proposed MNC strategies based on sustainable value that can be designed for the consumer’s willingness to adopt green products.

Figure 1 is a two-dimensional model presenting consumption perspectives and sustainable value chain strategies driven to assist MNCs. On the vertical axis you have Strong SVC strategies and Weak SVC strategies; and on the horizontal axis is the high willingness to adopt green products and low willingness to adopt green products. These two distinct dimensions presents consumer consumption sentiments that are identified to fall into various quadrants.

We draw on Sustainable value driven strategies that are based around the Sustainable Value Chain Analysis (SVC). SVC is the combination of two methodologies i.e. Value Chain Analysis (VCA) and Life Cycle analysis (LCA) which is often used as a diagnostic tool for value chains. It is suggested by de Bakker and Nijhof, (2002) that value chain analysis should not be used in isolation and consideration should be given to the value that final consumers attach to all the activities that contribute to pollution and degradation of the environment, suggesting that LCA should also be integrated for adapting to environmental constrained markets. This in turn would improve an MNC’s competitive positioning, reputation and market access.

Notably, VCA focuses on three areas (Taylor, 2005; Bonney et al., 2007): they suggest, first, the dynamics of information in the value chain, from final consumption through to primary production and input suppliers and back again. It regards how visible and responsive are the information and communication within the chain. How much are stakeholder decisions influenced by what consumers value? Second; how is the creation and flow of value, as perceived by the consumer from the beginning to the final stage in the value chain? How much of the manufacturing and processing activities actually add value? Types of investment made in these key areas; how to optimize on value creation and efficiency? Third, what is the nature of relationships between the different stakeholders, from the supplier to the retailer? How much trust is exhibited? What are the different levels of communication between these organizations and their commitment? What are the underlying risk factors?

Life Cycle Analysis (LCA), considers the life cycle of a product from the time it is sourced to the time it ends, often referred to as 'cradle to grave' analysis, it considers operations such as production, processing, packaging, distribution use and disposal of a product (Camilleri, 2008). The aim of this process is to invest wisely at each level of the value chain in environmental resources such as renewable resources, energy and water; reducing environmental impacts and identifying opportunities for improving environmental performance.

The model classifies consumption into four quadrants conformed within this two-dimensional model. Consumption is categorized as follows: rational, socio-psychological, hedonistic, self-identity/symbolic and communication based (Schaefer and Crane, 2005; Berry).

## **RATIONAL VIEW OF CONSUMPTION**

Under this form of consumption, consumers are rational, utility maximizing decision makers who take a logical decision making processes. This is based on the level of utility attached to, and probability of obtaining, each choice. This model shows that people's choices are based on rationally calculating the costs and benefits of a particular choice they would opt for (Davoudi, Dilley and Crawford, 2014). It is believed that environmental concern can lead to inclusion of environmental criteria in the decision making process. The present situation of China's current environmental problem could exacerbate green consumption. Those consumers that demonstrate perceived consumer effectiveness or those that have strong attitudes towards the environment will follow this path of rational consumption.

This type of consumption can be placed in quadrant one with consumers having a strong willingness to adapt to sustainable products. Since environmental concern leads to inclusion of environmental criteria in individual consumer decision making it is necessary that marketers respond to consumer



demand for greener products and services making use of strong SVC strategies. In addition, one may adopt a differentiation strategy for environmental sound products.

Porter (1980: 37) views product differentiation in terms of the “uniqueness” in the product offering. Some marketer analysts define differentiation as attributes which are ‘perceived by the customer to differ from its competition on any physical or nonphysical product characteristic including price’ (Dickson and Ginter, 1987: 4). Although, product differentiation is particularly relevant for more durable consumer products; Levitt (1980) notes that the strategy can also generate successful outcomes for other commodities; and can be achieved through branding. Some analysts argue that by endorsing a product label the product becomes a ‘self-fulfilling prophecy’ (Peters & Austin, 1985: 61). Product differentiation can also be achieved by external means, such as reputation for reliable delivery or other services offered by the retailer (Caves, 1987; Lawless 1991). The success of this strategy is relevant when there is little that a producer can do to differentiate a product from the competition.

## **SOCIOLOGICAL VIEW OF CONSUMPTION**

This involves shopping to acquire specific social and cultural needs. Consumption is embedded in social and cultural practices. People engage in this consumption for the sake of social engagement with family, peers and friends. This is unlikely for long term sustainability hence a weak SVC strategy is suggested and this category would fall in category III of the quadrant. China being a collectivist society would require a cultural change to integrate society as a whole towards sustainable consumption. The Chinese traditional values of Confucianism have a huge part in how consumers buy products and the social status attributed to them.

Here the focus is more on consumption that has important sustainable roles that account for cultural and social aspects, hence placed in quadrant III as strong willingness to adopt to sustainable products based on strong social views but weak or neutral towards sustainability. As they are resistant to change, there requires a wider transition to address sustainability, create more awareness. Marketers need to promote new ways of fulfilling social and cultural needs through integrating sustainable values.

## **HEDONISTIC VIEW OF CONSUMPTION:**

This type of consumption is regarded as wasteful and discriminatory pattern of consumption and is known as the most recent development in the form of modern capitalism (Migone, 2007). The very use of a product or just by their possession is how consumers gain contentment. It directly opposes

sustainability principles advocated by environmentalists. Chinese consumers are growing more sophisticated in their purchasing habits, they don't just consider utilitarian factors but also look at more hedonic factors that provide value derived from immediate gratification that comes from purchasing, of which luxury brands can be seen within this classification (Story, 2010; Babin and Harris, 2012). This has even led to a booming market for counterfeits of prestige brands (Story, 2010). They are placed in quadrant IV having low willingness to adopt to sustainable products and thus weak SVC strategies. Changing attitudes and behaviours are necessary for this type of consumption.

### **SELF IDENTITY CONSUMPTION/ AND CONSUMPTION AS COMMUNICATION:**

Both these types of consumption appear similar. Consumption as a means to construct psychological and social identity, as such, Durning states that consumption has become 'our primary means of self definition', allowing us 'to satisfy with material things what are essentially social, psychological, and spiritual needs' (Durning, 1992, pp. 8, 23). This consumption is regarded as a code for communication of status, taste, self identity and social relationships. It is a link to building self-identity. The symbolic value of goods is significant. It is the value of highly visible behaviour influencing the behaviour of others is important. For instance, shared experiences of sustainable lifestyles within families, groups and communities whereby individuals feel the need to conform to similar values. The most prominent cultural influence is that of face. Lin Yutang (1939) views on the concept of face is that it can be placed above all earthly possessions. It can be more powerful than fate. Face can be regarded the self as presented to or revealed to other. Confucius focus on wealth and high position is preferred over poverty (Wangdao, 2001). This position or social status also attaches itself to luxury or highly priced possessions and materialism.

This is placed in quadrant II, given that it supports conspicuous consumption. Consumption on products that are not observable due to their private use will tend to diffuse more slowly than innovations that are conspicuous (Hoyer & MacInnis, 2006; Rogers, 2003). Here consumer actions largely depend on behavior and visibility of a product. Marketers need to highlight the exclusivity of their products for products to be used (Amaldoss and Jain, 2005).

For this type of consumption to be sustainable, there is a strong need for SVCs strategies that emphasize visible green association of the product, hence stronger SVC strategies are required for a low willingness to adopt type of consumers. If shared experiences of sustainable lifestyles in families, groups and communities can identify sustainable self identities and lifestyles this would be able to promote more sustainable consumption patterns.

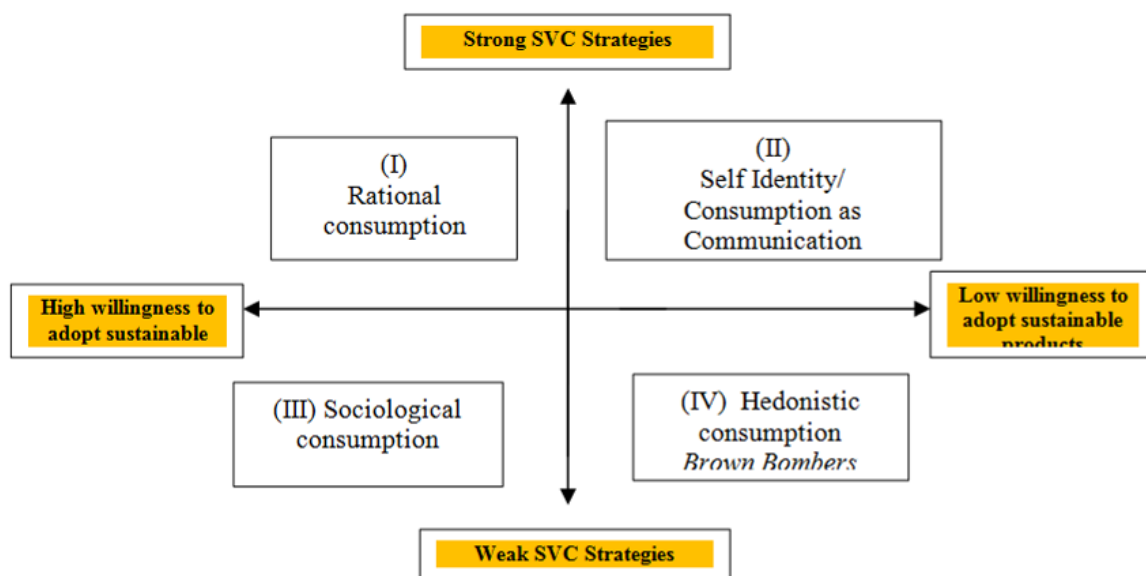


Figure 1. A two-dimensional model of Sustainable strategies and consumption views

To conclude, while this may not be equally applicable across other areas of consumer's environmental behaviour, future research could be directed towards empirically testing the model by experimenting on the different types of consumption approaches. In essence, other measures can be considered to pigeon-hole consumers in various segments that determine their demographic and psychographic characteristics. A cluster analysis will result in providing a richer information base of these consumer segments. To determine market power, researchers could compare leading MNC brands. Further investigation of the green Chinese consumer should also be undertaken to identify whether green consumers are likely to include leading brands in their repertoire. Overall, MNCs should design and position strong and weak SVC communication strategies as they can be target to different categories of consumers with different marketing mix strategies. Segmentation strategies based on consumption provides a more viable measure for the Chinese consumer as they are culturally bound, some of them are transitioning from a collective culture to an individualistic one, have mixed views by following the doctrine of Confucianism and have an increasing purchasing power.

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## CORPORATE ENTREPRENEURSHIP IN PHARMA R&D ORGANIZATIONAL TRANSFORMATIONS

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### ABSTRACT

This multiple-case study examined factors that could contribute to a richer understanding of top managers' perceptions on maintaining high-performance teams in Pharma R&D. In addition, this multiple-case study investigated top managers' perceptions of building opportunity-based entrepreneurial culture in organizations during strategic change, considered as critical factor for organizations during change, the results of which can be used to guide management in preventing destructive actions of business non-loyalty. Following, this multiple-case study examined the management of change within the corporate entrepreneurship literature as a means of helping organizations improve on practical intelligence of defining growth goals and new enterprise growth management processes and procedures, including those relevant to change, the way they function, and formal and informal rules protecting adequacy of governance arrangements as well as the organizational culture. Participant responses to the interview question regarding capability to maintain high-performing teams resulted in themes regarding role of leadership in risk management approach, leadership development challenges, trust and commitment in inter-firm relationships, as being the top managers' perceptions and the attitudes in outsourcing R&D industry sector since the enactment of the strategic change.

**Keywords:** *Corporate Entrepreneurship; Organizational Change, High-Performing Teams, Top Management Perceptions.*

### INTRODUCTION

As stated by World Health Organization (WHO), the crisis in multicultural management (MCM) policies highlights the need for the use of culture and language to improve standards of care in health services organizations. Global pharmaceutical industry is forced to balance competing economic and scientific priorities before the start of research and development (R&D) of new products and services in a climate that is becoming more stressed by increased regulatory standards, high and inflexible cost structures, depleting product pipeline and increased complexities of clinical trials (Kaitin, 2010). Reduction in research and development productivity makes only one in 13 compounds to reach the

market (Khanna, 2012). Mergers and acquisitions, outsourcing, combined with downsizing and strategic alliances, have become the new norm (Kaitin, 2010; Lowman et al., 2012). Past research has highlighted the impact that organizational transformation can have on Pharma R&D strategic partnerships, particularly with regard to corporate entrepreneurship, governance effectiveness and maintaining high performance teams (Hofstede, 2003; Fink, Dauber & Yolles, 2012; Strebel, 2003).

The purpose of this qualitative study is to explore the perceptions of contract research organizations (CROs) industry sector leaders on how CROs can maintain high performing teams in successful central laboratory services. A multiple-case study research design (Yin, 2013) was used to satisfy the goal of this exploratory research, and data have been collected through multiple sources, including in-depth individual interviews, field notes (George, 1990) and subject matter expert (SME) review and reflection of the data collected. The researcher conducted eight in-depth, face-to-face interviews with business executives holding leadership positions within the pharmaceutical industry in Europe and the US with specific knowledge on building Pharma-CROs partnerships. Additionally, SME examination on the subject matter provided formative evaluation of the interview guide/ instrument and SME reflection on the data collected provided an unbiased and objective view in the analysis phase (Rowley, 2002). Triangulation of data sources was conducted to establish credibility of the researcher's reflections on the phenomena under study (Creswell, Hanson, & Plano, 2007).

## **MATERIALS AND METHODS**

To address the purpose of this study, the researcher first identified business executives holding global leadership positions within the CRO industry. The participants had suitable knowledge on the subject of the pharmaceutical industry outsourcing R&D projects and the researcher conducted eight in-depth interviews with the subjects (Attachment 1). An initial field test was conducted to confirm the applicability and dependability of the interview questions and data collection techniques. A semi-structured interview format provides adaptability, a feature important for case studies, in that each participant's experiences is unique and therefore, questions may need to be refined (Stake, 1995). Open-ended questions, as commonly used in a semi-structured interview, identify themes and nuances in the participants' answers (Yin, 2013). An initial field test was conducted to confirm the applicability and dependability of the interview questions and data collection techniques. Purposive and snowball sampling, the most common sampling strategies in qualitative research, were applied for subject recruitment to the study. Applying this sampling strategy also reassured successful recruitment of "hidden populations"; that is, participants within the pharmaceutical industry that were not easily accessible through other sampling strategies (Noor, 2008).



## RESULTS

Different themes emerged from research results that align with the central research question of this study regarding how a corporate entrepreneurship framework can be used to explore perceptions of R&D Laboratories/CRO industry sector leaders on how CROs can maintain high performing teams for developing a successful central laboratory services. Participant responses resulted in themes regarding role of leadership in risk management approach, leadership development challenges, trust and commitment in inter-firm relationships, as being the top managers' perceptions and the attitudes in outsourcing R&D industry sector since the enactment of the strategic change. For example, results suggested that top managers expect maintenance of high-performing teams through leadership development, trust and commitment from the organization in times of strategic changes (*Hansson & Jansson, 2013; Won & Hannon, 2013; Wright, 2010*). In addition, research results showed that top managers who perceive that when management commits to personal development of their subordinates, then career development path within the organization can be maintained by employees together with management to successfully implement the change (*Saari, 2013; Simons, 2013*).

### *Role of leadership in risk management approach.*

All study participants believed that the role of top management is very critical in an organization that is undergoing a strategic change, and that top management must provide a communication strategy to share information with employees, supporting that in order for change to be sustained, management must try to maintain high performing teams and manage risks related to building and keeping them in order to build trust and commitment in relationships with their client base.

Leadership development challenges. All research participants confirmed that when management commits to personal development of their subordinates, then career development path within the organization can be maintained with employees. Effective communication is a fundamental factor in building succession planning of managers, and contributes to the creation of an entrepreneurial environment motivating employees to work even harder and be more productive, even in times of change. In case of strategic partnerships with client management of partnering companies should work together to develop some kind of entrepreneurial ideas pool to communicate the plan of change as well as offer methods of monitoring as to how these ideas and experiences of change are internalized throughout the organization. Further findings suggested that lack of management's commitment to personal development of their subordinates, career development path within the organization affects the quality of relationships, and that management should make good-faith efforts and behave with honesty in relation to their high-performing teams.

*Trust and commitment in inter-firm relationships.*

Half of participants believed that top managers of their strategic partners get together rarely discussing mainly technical and organizational capabilities involved in agreed relationships. These findings indicated that when top managers of both strategic partners get together to discuss skillsets of their personnel, technical and organizational capabilities involved in agreed relationships, they can focus on positive aspects regarding their reactions to organizational change and be more enthusiastic in promoting positive working relationships. Study findings are consistent with international applications of corporate entrepreneurship theory, which is an important factor that can promote successful business practices, within and between organizations (Mainela et al., 2014). When individuals are interactively involved in international business opportunity building, action and knowledge of personnel can mutually reinforce each other (Dunlap et al., 2013), as is also suggested in this study's findings.

Research findings provided insights supported by the extant literature and that can be used to address entrepreneurial collaborative solutions in interactions with clients to adapt changing research environment (Lustig & Thompson, 2013; Ullman & Boutellier, 2008). Findings further indicated that the role of management is very critical in an organization that is undergoing change in effective communication culture and adequate sharing of information with the client base; by encouraging the breadth of services they are supporting clients with, and that influences organizational strategy and our operating plan. (Kaitin, 2010; Kaplan, 2012; Sams-Dodd, 2013). Three distinct elements make up entrepreneurial culture and are associated with how managers build their CRO/R&D laboratory's positioning in the industry and the expectations for changes that need to be implemented as well as how they treat their current clients (Mirowski & Van Horn, 2005). All research participants underlined role of top managers in risk management and current challenges in leadership development within the organization. Half of study participants mentioned trust and commitment culture in inter-firm relationships skills as crucial for maintaining high performing teams. Accordingly, research findings suggested that managers could help avert negative behaviors on the part of clients when they balance and implementing strategies and operating tactics, while preserving the current business delivery. As a result, clients are willing to work together with management to implement the change (Chow & Chang, 2011; Coates & Bals, 2013; Grimpe & Kaiser, 2010).

## DISCUSSION

Build higher performing teams in comparison to their present teams was perceived by top managers as critical importance in relation to risk management approach during the implementation of change (Hansson & Jansson, 2013; Won & Hannon, 2013; Wright, 2010). This element of corporate

entrepreneurship was considered by Saari (2013) and Simons (2013) as to be tied to management commitment to personal development of their subordinates to ensure that employees together with management successfully implement the change. Accordingly, research findings suggested that trust and commitment culture in inter-firm relationships could help overcome conservatism of the part of clients when R&D lab recognizes the role of global alliance management increasing the governance, of skilled professionals in its leadership teams that are been trying managing alliances with different companies. The significance of opportunity-based view of entrepreneurship through application of practical intelligence and communication was found as another support factor in strategic relationships with clients during times of uncertainty and ambiguity (Baum et al., 2011; Brown et al., 2001; Stevenson & Jarillo, 1990).

Effectiveness of multicultural management (MCM) strategies for influencing policies in organizational settings is a subject of multiple researches. Ronen & Kraut (1977) were the first, who in scholar literature clustered countries based on employee work values and attitudes. Geert Hofstede (1980) introduced for different geographic regions four dimensions of power distance, uncertainty avoidance, individualism vs. collectivism, and masculinity vs. femininity as the key elements of MCM. Fons Trompenaars proposed model of national culture differences as a framework for cross-cultural communication applied to general business and management, and added layers in MCM: universalism vs. particularism, individualism vs. collectivism (communitarianism), neutral vs. emotional, specific vs. diffuse, achievement vs. ascription, internal vs. external control, and sequential vs. synchronic (Trompenaars and Hampden-Turner, 1997).

A critic of above theories claims their inadequacy to popularity and little value to those organizations promoting economic growth. Hofstede (1984), Frey (1984) suggested that future theory and research should concentrate on the interaction between economic growth by emphasizing factors at individual, national, and international levels. Schäffner et al. (2006) found that the firm's culture should incorporate the normative assumption or belief that diversity is an opportunity and becomes a predictor of team innovativeness. Kearney & Gebert (2006) confirmed that diversity in age, nationality, and functional background have a positive effect on team innovativeness in a high transformational leadership context, but no effect in a low one. A curvilinear relationship between diversity and performance was identified by Richard, Barnett, Dwyer, & Chadwick (2004). Kochan et al. (2003) found few positive or negative direct effects of diversity on performance.

Scholars of corporate entrepreneurship contend that change management constitutes a natural component of the working lives of organizations (Brown et al., 2001; Simons, 2013; Stevenson & Jarillo, 1990). A corporate entrepreneurship framework offers a means for better understanding, within the context of strategic change (Stevenson, 1984), managers' perceptions of maintaining high-performance

teams in an organization (Baum et al., 2011; Lustig & Thompson, 2013; Ullman & Boutellier, 2008). Given that strategic change is an inevitable factor in the life cycle of modern organizations, the findings from this study contribute to a better understanding of how change in organizations can be successfully and more effectively implemented (Kaitin, 2010; Mirowski & Van Horn, 2005). Overall literature research claims that high-performing teams maintenance needs to be properly managed if any business benefits are to be reaped. If properly managed, diversity likely will respond to these business goals. This does not preclude that diversity at all levels of society should be a goal 'per se'. Beyond business benefits, research should pay more attention to societal benefits attached to the promotion of more inclusive and diverse workforces.

*Shift from multiculturalism to diversity as a tool in growing organizations*

Rosado (1996) proposed new definition of Multiculturalism as a system of beliefs and behaviors that recognizes and respects the presence of all diverse groups in an organization or society, acknowledges and values their socio-cultural differences, and encourages and enables their continued contribution within an inclusive cultural context which empowers all within the organization or society (p. 2).

Cox (2010) proclaims diversity management as a more dynamic approach and a way to get from a heterogeneous work force the same productivity, commitment, quality, and profit as from the homogenous one. Harper (2011) paid special attention to practical application aspect of MCM policies and their variations across countries. Author emphasized the respect to the various cultures in an organization, their embedding in the policies, and promoted the cultural diversity. Cotter (2011) reinforced importance of MCM policy frameworks. The author described *Interculturalism* as a concept with focus on interaction and communication between different cultures. Interactions of cultures provide opportunities for the cultural differences to communicate and interact to create multiculturalism. The author used another concept of *Cultural Isolation*, presenting any specific ethnic, religious, or cultural community values as a central, key management subject that should center policy frameworks on diversity and cultural uniqueness.

Recent MCM bifurcation trends of *Interculturalism* and *Cultural Isolation* Harper (2011) defined as a borderline between several business leadership MCM styles: controlling vs. adapting, and prospecting vs. defending. Multicultural management became an education discipline that facilitates providing accurate cultural information, leading to a productive psychosocial orientation to an effective cross-cultural communication. Agency for Healthcare Research and Quality (2013) defines national cultural health as focused on sufficient values, interests and principles of the Nation, a person or group lives in. Ethnic cultural health is focused on cultural values, interests and principles of the ethnic group a person belongs to or interacts with.

Dawkins (2006) suggested the explanation of developing ethnocentrism by genetic *The Selfish Gene*, while Hammond & Axelrod (2006) have attempted to select the ethnocentric phenotypes. De Dreu et al. (2011) evaluated correlation between ethnocentrism and oxytocin hormone levels in blood. They found that in randomized controlled trials that oxytocin creates intergroup bias because oxytocin motivates in-group favoritism and, to a lesser extent, out-group derogation. Daniel Goleman (2013) defined links between oxytocin releases with activation of amygdala, the brain radar of danger. McCleskey (2006) described this three-phase physiologic process. The release of stress hormones leads to excessive death of neurons in the critical pathways responsible for emotional regulation: emotion defeats reason. Once an association is made through repetition of a behavior, it increases the likelihood one will continue to make the same association and decreases the likelihood of a different association. Behavior change involves both unlearning and relearning and developing new chemical connections in the brain; this explains why “wired” patterns of behavior are so difficult and slow to change.

#### *From anti-MCM to organizational change resistance*

Cultural models are made up of culturally derived ideas and practices that are embodied, enacted, or instituted in everyday life (Fryberg & Markus, 2007). Dauber et al. (2012) suggested performance assessment (i.e., inward-oriented operations) as a mechanism of strategic changes in organizational structure. The authors consider learning processes, such as “single-loop learning” that refers to the detection of errors and the adjustment of strategies to overcome mistakes. Double-loop learning, however, questions existing underlying assumptions, that is, organizational culture, and may lead to more fundamental changes in strategies and their operationalization. Dauber’s concept of organizational culture model transformation into a more holistic, comprehensive, and interdisciplinary cultural dynamics in organizations can serve as a meaningful reference to build new cultures.

Relevance of cultural models to business, their impact on critical variations as cultural shock, negotiation failures, strategic collaboration failure, as well as cultural routine business prototypes (centralized vs. decentralized decision making, risk management, engagement, rewards and organizational loyalty) define future of companies, their strategic partnerships, competitiveness, sustainability, and innovativeness. To reach the new level of performance, the organization has to empower self-organizing teams and transform the role of the manager from controller to enabler.

Beer et al. (1990) proposed six steps of effective change: 1) Mobilize commitment to change through joint diagnosis of business problems; 2) Develop a shared vision of how to organize and manage for competitiveness; 3) Foster consensus for the new vision, competence to enact it, and cohesion to move

it along; 4) Spread revitalization to all departments without pushing it from the top; 5) Institutionalize revitalization through formal policies, systems and structures; 6) Monitor and adjust strategies in response to problems in the revitalization process.

## CONCLUSION

Scholars of corporate entrepreneurship contend that organizational change constitutes a natural component of the working lives of organizations (Brown et al., 2001; Simons, 2013; Stevenson & Jarillo, 1990). A corporate entrepreneurship framework offers a means for better understanding, within the context of strategic change (Stevenson, 1984), managers' perceptions of technical and organizational maturity, efficient governance, and maintaining high-performance teams in an organization (Baum et al., 2011; Lustig & Thompson, 2013; Ullman & Boutellier, 2008). Given that strategic change is an inevitable factor in the life cycle of modern organizations, the findings from this study contribute to a better understanding of how change in organizations can be successfully and more effectively implemented, as well as how to forecast allocation of resources so as to bring about the desired change (Kaitin, 2010; Mirowski & Van Horn, 2005).

This multiple-case study examined factors that could contribute to a richer understanding of top managers' perceptions on maintaining high-performance teams. It also sought to advance knowledge that could help organizational leadership recognize the significance of establishing mutual trust and networking structures with their clients so they may successfully cooperate with their strategic partners during times of strategic change. In addition, this multiple-case study investigated top managers' perceptions of building opportunity-based entrepreneurial culture organizations during strategic change, considered as critical factor for organizations during change, the results of which can be used to guide management in preventing destructive actions of business non-loyalty. Following, this multiple-case study examined the management of change within the corporate entrepreneurship literature as a means of helping organizations improve on practical intelligence of defining growth goals and new enterprise growth management processes and procedures, including those relevant to change, the way they function, and formal and informal rules protecting adequacy of governance arrangements as well as the organizational culture. Participant responses to the interview question regarding capability to maintain high-performing teams resulted in themes regarding role of leadership in risk management approach, leadership development challenges, trust and commitment in inter-firm relationships, as being the top managers' perceptions and the attitudes in outsourcing R&D industry sector since the enactment of the strategic change.

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## ATTACHMENT 1. INTERVIEW GUIDE QUESTIONS

Top Managers' Perceptions of Technical and Organizational Maturity (T), Efficient Governance (F), and Maintaining High-Performance Teams (MoC) Using an Organizational Entrepreneurship Framework

Date: \_\_\_\_\_

### Introduction

#### To Interviewee:

"The interview is recorded on tape for the best possible data. Is this okay? I can turn off the tape recorder along the way if you wish."

"Have you read the information I sent in the e-mail? Have you signed the Informed Consent Form to participate in this study?"

"The purpose of this investigation is to explore how an organizational entrepreneurship framework can be used to explore top managers' perceptions of technical and organizational maturity, efficient governance, and maintaining high-performance teams of central laboratory services operations in a global R&D lab/CRO." "Do you wish to ask any question regarding the study or this procedure before we proceed?"

### Exploring Interviewee Perceptions on the Study Topic

**To Interviewee:** "This is an investigation to determine how the application of the central laboratory services (CLS) business model has had an effect on top management tasks of a global CRO. This interview will specifically refer to the CLS regarding strategic partnerships with pharma R&D sponsors and transformational changes within the organization, one of the leaders in the R&D labs/CROs' industry sector during the last years."

#### Part A (Participant Information)

A1. Interviewer: _____	A2. Interviewee ID number: _____
A3. Job title: _____	A4. Location: _____
A5. Gender: Male / Female	A6. Employee age: _____
A7. Years in industry: _____	A8. Years in CRO: _____

### Part B: Interview Questions addressing issues of Technical and Organizational Maturity, Efficient Governance, and Maintaining High-Performance Teams Using an Organizational Entrepreneurship Framework

The interviewer will ask the interviewee to answer the following interview questions by freely expressing their beliefs, opinions, and feelings associated with the R&D labs/CRO's business

model. The interviewees will be asked to elaborate on their responses when appropriate and following normal in-depth interview procedures.

B1. Why are strategic and operational changes needed in established R&D labs/CROs today in order to develop a central laboratory positioned for success in the future?

B2. How can established R&D labs/CROs today enact strategic and operational changes in order to develop a successful and sustainable central laboratory business model?

B3. Why are strategic and operational changes needed in established R&D labs/CROs today in order to develop a more efficient client/provider governance model?

B4. How can established R&D labs/CROs develop effective governance to maintain a successful today entrepreneurial business model for tomorrow?

B5. How can R&D lab/CRO leadership build higher-performing teams in comparison to their present teams in order to better meet the future business plan goals of a successful R&D lab/CRO?

B6. How do you perceive the viability of an entrepreneurial business model to help your R&D lab/CRO become more competitive in tomorrow's pharma R&D market?

### **Summary**

Thank you for your kind participation in this study and the opportunity to explore the organizational entrepreneurship framework through your valuable perceptions of technical and organizational maturity, efficient governance, and maintaining high-performance teams in global R&D labs/CRO business models.

## DO CHILDREN OVERESTIMATE THEIR INFLUENCE ON PARENTS' PURCHASE DECISION? SYSTEMATIC ANALYSIS

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### ABSTRACT

Children's influence on their parents' purchase decision was examined in more than 270 articles published in a period of 1985 – 2015. The purpose of this article was to systemize previous findings from researches that were performed in dyads or triads of respondents (child and one or both parents) in order to answer these questions: Do children overestimate their influence on parents' decisions to purchase products? If yes, how overestimation differs depending on certain types of products? A systematic analysis of articles in nine main databases of social sciences was performed to select the articles related to child's influence on his/her parents' purchase behavior. 30 articles, suitable for further analysis sample-wise (dyads or triads), were selected for analysis. Researches included data on a number of products, which let us create a database of 149 cases where children's and parents' perception of children's influence on parents' purchase decision was measured. Qualitative and quantitative data analysis methods were applied. Both of them proved that there is congruence between children's and parents' perception of influence on purchase decisions in most of the articles, researches and cases. Just in 22% of the cases children overestimated their influence, if compared to parent's response. Parents overestimated children's influence in 14% of the cases. Based on this analysis we can conclude that children's overestimation of their influence on parents' decision to purchase products is more an exception than a rule. Products for children and commodities are the categories where children's overestimation of influence was observed more often.

**Keywords:** *children influence, parents' purchase decision, consumer behavior, systematic analysis.*

### INTRODUCTION

The effect of children's influence of parental purchase decision making has been under researchers' interest for over 40 years. Researches were performed in developed and developing countries in a vast geographical spread (Dikcius et al., 2014; Kerrane et al., 2012; Kaur and Medury, 2013; Che-Jen and Sijun, 2010; Gaumer et al., 2013; Wang et al., 2007, Akinyele, 2010; El Aoud and Neeley, 2008, Shoham

and Dalakas, 2005; Ülger and Ülger, 2012, Marshall and Reday, 2007). Studies, related with children's influence on parental purchase decision varied depending on product categories: goods (Buijzen and Valkenburg, 2008; Fikry and Jamil, 2010), services (Labrecque and Ricard, 2010); products for children's consumption (Kim et al., 2009, Fallon and Bowles, 1998) versus family consumption (Gavish et al., 2010). The researches varied depending on participants as well. A lot of researches asked only parents how they perceived their children's influence (Bakir et al., 2006; Dikcius et al., 2014), while some researches included only children and evaluated their opinions (El Aoud and Neeley, 2008; Marshall and Reday, 2007). However, only a small portion of researches included both children and parents in the same research. These studies used dyads or triads of respondents in order to measure perceived children's influence on their parents' purchase decision from children's and parents' point of views.

Researchers that used dyads or triads for measuring an influence on purchase decision expected that participants in a family would have different perceptions of their impact on a decision to buy products. Belch, Belch, and Ceresino (1985) were among the first authors who concluded that children expressed higher level of influence than their parents did, but not in all product categories. The authors found that children expressed higher level of influence than their parents only in case of five products out of 18 that were researched. Later researches provided different results as well. Some authors proved that children overestimated their own influence on parents' decision to purchase products (Beatty and Talpade, 1994; Akinyele, 2010; Şener, 2011). Other researches noticed the opposite: parents' overestimated children's influence on their parents' decision to purchase products (Fallon and Bowles, 1998; Lee and Beatty, 2002; Harper et al., 2003). In addition, there are studies which found congruence between children's and parents' perceptions (Belch et al., 2005; Nørgaard et al., 2007; Wang et al., 2007). Thus, the issue that some family members, children primarily, might overestimate their influence on others in purchase decision is unresolved. Empirically based, and moreover, comprehensive knowledge whether children tend to overestimate their impact could support researchers and practitioners in designing research and interpreting their results.

The studies indicated that product type is one of the main factors differentiating children's influence (Dikcius and Medeksiene, 2008; Beneke et al., 2011). It was reported that strength of children's influence was higher in the case of products for children than for the family use (Beatty and Talpade, 1994; Chavda et al., 2005; Dikcius et al., 2014). Evidence is provided that children had bigger impact on parents' decision to purchase goods than services (Batounis-Ronner et al., 2007; Flurry and Veeck, 2009; Kim and Lee, 1997). Finally, several authors argued that children are more influential on parents' decision to buy convenience products (some named these as minor products) comparing to the case of shopping products (major products) (Chavda et al., 2005; Akinyele, 2010). That allows presuming that children's overestimation of their influence can differ depending on different products categories.

Due to such variation in results of previous researches the question “Do children overestimate their influence on parents’ decisions to purchase products?” remains unanswered. Thus, the main goal of this research was to determine whether children’s evaluation of their influence on parents purchase decision was higher than their parents’, and how the overestimation differs depending on product category.

The systematic analysis of scholarly publications from major databases was performed. 30 articles published in a period of 1985 – 2014 were extensively examined. Since most of researches included data on a number of products, we analyzed 149 cases where children’s and parents’ perception of children’s influence on parents’ decision to purchase products was measured. Qualitative and quantitative methods were used for the analysis of the selected articles.

## **THEORETICAL BACKGROUND FOR CHILDREN’S OVERESTIMATION OF THEIR INFLUENCE**

Some theories could be used in order to explain why children could overestimate their impact on parents’ decisions, but none explains the phenomenon (if it exists) exhaustively.

Valkenburg and Cantor’s (2001) theory of children as consumers development suggests that at different developmental stages children have different needs, followed by cognitive and social abilities that could affect their evaluation of influence on purchases. With an increasing age and socialization the number of examples when children’s requests, suggestions, provisions of information, settled priorities or other indirect means of influence were satisfied, increases. That happens since children are acknowledged as more mature, expert in particular fields, deserving decision making freedom and respect to their opinion by their parents with age. In this case the phenomenon of survivorship bias (suggested by Wald, 1943) might take an effect – people tend to recall, analyze, and follow the selective examples of success much more than their actual proportion in the events’ population is. Children, being successful in some cases of desired purchase, also not avoid this bias, considering that their influence on parents is higher than actual on the basis of selective success examples.

A number of explanations why parents and children evaluate their perceived influences on purchases differently could be related with theories of perception of social reality: construction of social reality, social projection, and impression management (Eveland and Gleen, 2008). In this case social reality is a purchase, where individuals frame and cognitively or sub cognitively analyze shared situations.

McLoed and Chaffee (1972) used cognitive theory of co-orientation as a background in explaining evaluations’ differences of shared social reality. The model argues that evaluation differences are dependent on person’s cognition. This suggests that parents’ evaluation could be more accurate, considering that their cognition is more capable and developed if compared to children’s cognition.

In a similar manner, higher parent's accuracy in estimating the influence could be explained by social projection. This concept explains that individual's judgment about others is dependent on the judgment about oneself, and the more accurate the initial judgment is, the more accurate is projection, and thus, the final perception (Nickerson, 1999, Hoch, 1987). It is likely that parents follow this process with more accuracy starting from self-evaluations, following to projection and final perception, thus their estimated influence is more adequate.

In case of any respondent, results could be biased due to impression management (Prentice and Miller, 1993). Some people might aim for artificial distinctiveness, exaggerating selective characteristics or statements about their behavior (in the case of influence, it can be treated as social success). As younger age is usually related to higher susceptibility to interpersonal influence (Park and Lessig, 1977), children might tend to over report their influence for the sake of interviewer's social impression.

The last explanation why children might overestimate their influence on parents is based on the phenomenon of omnipotence (sometimes referred as magical omnipotence, since it is imaginary), which explains individuals' shaped belief that he/she is gifted with much more than actual (even unlimited) powers. Psychologists explain that the feeling of omnipotence is characteristic to children, especially in early childhood (Skynner, Cleese, 1993), since a child who is beloved, cared for, and supported might elaborate the feeling of world's submission to his/her wills, which decreases with development (Bromberg, 1983). When affected by omnipotence, children, especially younger ones, might truly believe they serve as influencers and decision makers in family purchase decisions more than they in fact are.

Nevertheless, there might be cases when parents allow children to participate in purchase decisions more extensively, giving them a feeling that they are influential. Children participate more often in purchase decisions when the purchase is related to their own needs; and in everyday shopping of comparatively inexpensive purchases. Since regular grocery purchases are a part of children's daily interaction with parents, where socialization is taking place, children might perceive higher influence if compared to actual due to higher involvement and more frequent participation in events. Influence in purchase of shopping goods and services should be perceived more realistically due to relatively more seldom involvement and participation.

## **METHODOLOGY OF SYSTEMATIC ANALYSIS**

Articles were selected in August 2015 from the most acknowledge databases for social sciences, and especially marketing. Nine databases (see Table 1) formed the population of articles. We decided to use period from 1985 till 2015. Four groups of keywords were used for selection of articles. First group was related to the question Who? The main keyword was "child\*" and some other keywords as

“adolescent\*”, “teen\*”, “tween\*” were used as well. Another group of keywords were related to action. It included such words as “impact”, “role”, “participation”, “involvement” and “influence”. The third group was related to the question Whom? In addition to the main keyword “parent\*”, we used other words like “famil\*”, “mother\*” and “father\*”. The final group of keywords had such keywords as “purchas\*”, “consum\*”, “shopping”, “buy\*” and “decision”. Additionally, manipulations were run by putting any of collateral arguments in article title, and “child” (or related) in text, and afterwards adding additional arguments, if the result was too vast.

Three step screening procedure was applied in order to select articles that suited for the purpose of the analysis. The key criterion for the selection of articles’ was the relevance to the topic of child influence on parents’ purchase decision. This primary screening of the articles allowed us to develop a list of 278 articles (see Table 1).

Database	EBSCO	Emerald	JSTOR	Research gate	Sage Journals	Science direct	Springer link	Taylor and Francis	Wiley
Number of articles	95	44	12	41	15	25	10	17	19

*Table 1. Initial sample of articles according to the databases*

During the next step of the screening, the list of articles was analyzed more deeply. 40 articles were excluded due to repetition. Articles that appeared to be in other than English language were excluded as well. Some articles which were not available as full text through the same databases and after extra check from other possible sources were removed. In addition, articles that did not report results of primary research (literature review, theoretical developments) and working papers were removed. Thus, a number of articles was reduced to 176.

During the third stage of screening we evaluated all entries on the basis of suitability for the analysis. First, we checked if an article included dyad or triad of respondents (a child and one of parents at least). Second, a child’s influence on parents’ decision to purchase products had to be measured. Finally, content of measurement was evaluated in order to estimate if data were presented in comparable way. The last stage of screening left 30 articles, which served as a total sample of current analysis (these are marketed as \* in the list of references). Two coders analyzed the suitability of articles for further analysis. Cohen’s kappa coefficient, used to assess intercoder agreement, was  $k=0.758$ , which shows excellent agreement between coders, since value is greater than 0.75 (Banerjee et al., 1999).

## DESCRIPTIVE DATA OF ANALYZED RESEARCHES

Initial analysis of articles showed that researches were performed in different countries. Some articles published results from researches performed in several countries, which resulted that we had 36



researches in total, which were performed in 15 countries. These countries represent various regions in Africa, Asia, Australia, Europe, Middle East and North America.

The amount of researches differed significantly depending on a decade of publishing. We found only 4 researches published in 1985-1994. However, the amount of researches increased three times during next decade (12 researches) and continued to grow during 2005 and 2014 (20 researches) (see Table 2). We can conclude that the topic is gaining more importance, since the number of researches grows constantly.

Year of publishing	1985-1994	1995-2004	2005-2014
Number of researches	4	12	20

*Table 2. Distribution of researches according years*

The selected articles differed according to research methodology. More than 90% of researches were quantitative, while 9% of researches used qualitative approach (they were used for qualitative analysis only).

## **CHILDREN'S OVERESTIMATION OF THEIR INFLUENCE ON PARENTS' DECISION TO PURCHASE PRODUCTS: QUALITATIVE ANALYSIS**

Two coders were employed in order to evaluate congruence and differences of children's and parents' perception. Three main and two additional categories were developed for measurement. Main categories were as follows: a) children overestimate their influence on parents' decision to purchase products; b) parents' overestimate children's influence on parents' decision to purchase products; c) no statistical differences were observed between perceptions of parents' and children's. Additional two categories were developed for those researches where authors subjectively evaluated perceptions of parents' and children's. The coders used mode when a research included more than one object. Cohen's kappa was applied to measure intercoder agreement. Cohen's kappa coefficient was high ( $k=0.836$ ) for evaluation of congruence and differences of children's and parents' perception.

Analysis of articles has showed that in two thirds of articles no differences between parents and children were found in evaluation of perception of child's influence on their parents' decision to purchase products. Just in three articles children's perception was statistically higher than parents'. However, parents' perception was statistically higher than children's in the same amount of articles. We observed just minor difference in subjective evaluation of several articles (those contained no statistical analysis) (see Table 3).

Some articles had researches performed in several countries, which let us look deeper to the individual research. However, in case of separate researches we had almost identical situation. No statistical differences between perceptions of parents' and children's were observed in 67% of researches (see

Table 3). In addition to the results of articles, one more research showed that children's perception of child's influence on their parents' decision to purchase products was statistically higher compared to the parents'. Such results contradicted to the initial idea, that children overestimate their influence on parents' decision to purchase products.

	Number of articles	Number of researches
Children's overestimation was statistically significant	3	4
Children's overestimation was subjectively higher	3	3
Parents' overestimation was subjectively higher	2	2
Parents' overestimation was statistically significant	3	3
No statistical differences between perceptions of parents' and children's	19	24
Total	30	36

*Table 3. Distribution of articles and researches according to differences in perception of family members' influence of family purchase decision*

Since the initial analysis revealed only several researches that reported differences in children's and parents' perceptions, it was worth to analyze these cases in more detail. Both types of researches were performed during the same period of time (see Table 4), therefore there was no dependence between the period and the overestimation in perception of child's influence on their parents' decision to purchase products. Due to a very small amount of cases we couldn't compare results for each country, but having a look country-wise we can claim that higher children's perception, if compared to parents' perception, was noticed in developed (USA, UK, Belgium) than in developing (Nigeria, Turkey) countries. However, the results have similar distribution on the other side as well: higher parents' perception than children's was noticed in developed (UK, Australia, New Zealand, Canada) and developing (India) countries as well.

	Children overestimate their influences	Parents overestimate children's influences
Years of publication	1985-2011	1998-2004
Countries	Nigeria, USA, UK, Turkey, Belgium	UK, Australia, New Zealand, Canada, India
Type of research	Quantitative, Qualitative	Quantitative
Type of measurement	Means, percentages, qualitative	Means, percentages, correlation

*Table 4. Distribution of researches with children's or parents' overestimation*

As the external environment of the researches did not present clear dependency of the results, we evaluated methodological aspect of the selected researches. In both cases (children overestimate their influence and parents' overestimate children's influence), quantitative researches were used (see Table 4). Only one qualitative research found that children evaluated their influence on parents' purchase decisions higher than their parents did. We can conclude that in most of the articles and researches children's and parents' perception of children's influence on parents' purchase decision did not differ.

## CHILDREN'S OVERESTIMATION OF THEIR INFLUENCE ON PARENTS' DECISION TO PURCHASE DIFFERENT PRODUCTS: QUANTITATIVE ANALYSIS

28 articles out of 36 had means or percentages used for measurement of children's influence on parents' decision to purchase products. These evaluations were made in dyads or triads of children and their parents. Moreover, each research had several evaluations (mainly because each research included several products). All that compiled a database of 149 cases, suitable for quantitative analysis. Previous researches showed that children's influence on parents' decisions to purchase products depends on the type of products. The sample of cases included almost one third of products for children and two thirds for parents (see Table 5). Almost 80% of selected cases analyzed goods. Finally, some studies discovered that children had stronger influence on parents' decision to buy convenience products comparing with more expensive and rarely purchased products. The sample included more than 30% of convenience products (like daily food products, toothpaste, sweets, etc.) and almost 60% of shopping products (such as cars, TV sets, computers, apparel, holidays, furniture, etc.).

	Frequency	Percent		Frequency	Percent		Frequency	Percent
Products for children	49	32.9	Goods	115	77.2	Convenience products	48	32.2
Products for parents	91	61.1	Services	21	14.1	Shopping products	88	59.1
Other	9	6	other	13	8.7	Other	13	8.7

*Table 5. Distribution of cases according to the type of products*

Initial idea of using meta-analysis was rejected, since the selected researches have used different measures to evaluate perception of children's influence. The biggest part of researches used five point Likert scale for measurement (almost 80% of cases), but some researches were based on 7 point (7% of cases) or 6 point scales (7% of cases) and some researches evaluated children's influence using percentages (7% of cases). In addition, large variety of products caused a substantial heterogeneity across all studies.

Due to such variety of cases, we decided to analyze each case individually using appropriate statistics. In case of means used for measuring the impact, we applied Welch's t-test, while Z test was used for evaluation of differences between percentages. The same categories were used for the analysis: a) children's overestimation of their influence on parents' decision to purchase products was statistically significant; b) parents' overestimation of children's influence on their parents' decision to purchase

products was statistically significant; c) no statistical difference between perceptions of children's and parents'.

Quantitative analysis confirmed the conclusions of qualitative analysis. The biggest part of cases (63.8%) had no statistical differences between children's and parents' perception of children's influence on parents' decisions to purchase products. This percentage statistically significantly differ from percentage of cases when children overestimate their influence (22.1% McNemar  $\chi^2= 29.070$ ,  $p=0.000$ ) and from percentage of cases when parents' overestimate children's influence (14.1% McNemar  $\chi^2= 45.940$ ,  $p=0.000$ ). However, no statistical difference was found between the last two percentages (McNemar  $\chi^2= 2.241$ ,  $p=0.134$ ). These results contradict initial expectation that children tend to overestimate their influence on parents' decision to purchase products. Just in 22% of cases children evaluated their influence higher than parents' did. However, almost the same percentage of cases stated the opposite – parents' overestimated children's influence.

Such small number of cases when children evaluated their influence higher than parents' means that it is rather an exception, but not a rule. At the same time, it is possible to look for specific cases where children's overestimate their influence occurred more often. As it was mentioned earlier, many authors noticed that children have more influence on parents' decision to purchase products for children. Therefore, we could expect that children could overestimate their influence as higher in cases of products for children. Analysis of the cases proved this expectation, since statistically significant difference was detected ( $\chi^2= 8.479$ ,  $p=0.014$ ). Z test proved that the bigger part of children (37%) overestimated their influence on parents' decision to purchase products for children compared with the products for family (15%) (see Table 6).

	Products for a child	Products for family
Children overestimate their influence	37**	15
Evaluation of influence didn't differ significantly	49	69**
Parents' overestimate children's influence	14	16
**difference statistically significant at 0.05 level		

Table 6. Distribution of cases depending on a consumer of a product, %

Some authors pointed out that children are more influential in case of purchase of goods comparing with purchase of services. However, analysis showed that children's and parents' evaluation of children's influence did not differ depending if goods or services were analyzed ( $\chi^2= 0.958$ ,  $p=0.619$ ).

Finally, due to the results of previous researches, we suppose that children overestimate their influence on parents' decision to buy convenience products more than shopping products.

	Convenience products	Shopping products
Children overestimate their influence	31*	17
Evaluation of influence didn't differ significantly	50	69**
Parents' overestimate children's influence	19	14

<p>**difference statistically significant at 0.05 level</p> <p>*difference statistically significant at 0.1 level</p>
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Table 7. Distribution of cases depending on category of products, %

Analysis (see Table 7) showed that there is a statistically significant difference in distribution of cases depending on a category of products only at 0.1 significance level ( $\chi^2= 5.221$ ,  $p=0.073$ ). Congruence between children's and parents' evaluation of children's influence was noticed in statistically higher percent of cases for shopping products (69%) than for convenience products (50%). Using Z test, we found that bigger percentage of children (31%) overestimate their influence on parents' decision to purchase convenience products compared to shopping products (17%) only at 0.1 significance level.

## CONCLUSIONS

Findings of previous researches were quite controversial towards children's overestimation of their influence on parents' decision to purchase products. At the same time, the topic about children's influence on parents' decisions gets more and more attention from the researchers. The analyzed articles covered very long time period from 1985 to 2014, which let us evaluate the issue over the time. Moreover, the researches were performed in different countries, including various respondents. All that increased transferability of our results. In order to avoid subjectivity in evaluations, several techniques were applied. Systematical selection of articles assured that all articles from the selected databases would be chosen. We used qualitative and quantitative approach for the data analysis.

Results of both qualitative and quantitative analysis denied initial idea of children's overestimation of their influence on parents' decision to purchase products. Congruence between children's and parents' perception of influence was noticed in more than 60% of all articles, researches and individual cases.

Children's overestimation of their influence on parents' decision to purchase products was found in some researches. We observed such phenomenon in 20% of the analyzed cases. These cases did not differ depending on external factors such as time, country or measurement. Children's overestimation was found in higher percentages of cases where purchase decision was related with children-related products and convenience products. On the contrary, congruence between children's and parents' perceptions was in higher percentage of cases where purchase decision was related with family-related products or shopping products.

Parents' overestimation of children's influence on parents' decisions to purchase products was detected in 14% of the analyzed cases. These cases did not differ depending on such factors as time, country, measurement or product type.

Since our results demonstrate that influence overestimations in family purchase decisions from one or another side are exceptional, the implications are important primarily for the researchers. Results allow claiming that parents and children have more or less adequate and equal understanding of their

powers on each other in purchase decisions. Although it is considered that dyadic and triadic samples bring to higher accuracy, at the same time they are far more costly and difficult in sampling, data collection and analysis stages. If influence estimations bring to very similar results having only one side of interviewees, it means that efforts could be significantly reduced with minor losses (if any) in result's reliability.

Both scholars and researchers in practice can assess the responses gathered from children on their influence on parents as rather reliable, since their parent's perceptions usually match. However, caution should be taken in products for children, and in convenience products – although children's influence overestimations were not very frequent, they happen more often in these categories. The result implies that in cases of these products parents are more reliable source of information, signaling real situation of influencers, decision makers, and purchase behavior.

Further research could address the differences of influence estimations on the basis of gender and age of the child and/or parents, and social class of a family. Other methods (experiment, observation) could be added to the research design besides questionnaire, to assess whether reported influence is actually yielding in opinion change or purchase action.

The primary limitation of this research is a comparatively small sample of articles (although it led to 149 comparable cases). Acknowledgement of other limitation includes the fact that authors of the articles used measures that differed in statements, response formats and scalar properties. Samples and sampling procedures also differed across articles, interfering results' comparability. Unfortunately, the sample of articles under the analysis did not include articles published in top rated journals, since comparatively small portion of articles applied dyads or triads for sampling.

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## THE INDIVIDUAL: THE CORE OF THE ORGANIZATION IN A WORLD OF CONFORMISM

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### ABSTRACT.

The object of this work is to emphasize the importance of the individual's uniqueness for the organization he belongs to, by means of its creative potential in a world where conformism breaks into all fields. Starting from a global presentation it continues with the organization and in the end deals with the individual as central element within the organization, identifying the elements influencing his creative capacity as well as the methods by which means are created favourable conditions for its stimulation.

The work presents, in a theoretical approach, the conformism's influence upon the human creative potential. Concrete results need putting in practice the recommendations by the organization which should be included in a "pilot" programme, preferably in small organization for the beginning.

Individual's creative capacity stimulation and development shall materialize in improving organization performance at all hierarchical levels and in creating a competitive advantage.

The work expresses an original vision upon the individual as integral part of an organization, contributing to the specialized literature through its theoretical value.

**Keywords:** *Human resources, entrepreneurship, personnel management, creative potential, organizations*

### OVERVIEW

Mankind has always been organized under different forms with different aims, complying or not with certain rules (tribes, human settlements, provinces, kingdoms etc.). Nevertheless mankind's destiny changed every time with individual interventions whether we talk about leaders or independent characters (Archimedes, Alexander the Great, Leonardo da Vinci, Albert Einstein, Adolf Hitler, Sigmund Freud, Charles Darwin and the list may continue).

This happens also nowadays by means of individuals putting their mark upon the direction in which mankind evolves. Unfortunately, the negative aspects of individual influences are obstinately highlighted (take into consideration especially the individualized aspect of terrorist attacks, as well as the transformation of scientific findings first of all into weapons and afterwards in benefits put in

mankind's service). Paradoxically, important and valuable achievements of mankind (radio, telephone, computer, laser, internet and internet communications etc.) are also used by those with destructive preoccupations, making their work easier and simulating their creative capacity oriented to evil actions.

It seems now more than ever the inventors are confronted with the less positive side of their inventions and may see their negative results spread on a large scale.

A first image of the world's current situation presents maps with all kind of conflicts (armed, economic, religious etc.), as you cannot fail to observe that almost in every corner of the world a conflict exists under one way or another inducing or emphasizing a state of unsafety.

At the same time, the great powers' inability as well as of the different alliances with decisive roles in the world's destiny as shown in the last periods in critical situations (Crimea conflict, current immigrant crisis, terrorist attacks, economic scandals in which various economic giants are involved – like Volkswagen etc.) come to strengthen these negative aspects creating serious security breaches in the so far relatively stable climate.

Under these circumstances and taking into consideration the fact that the central element of this work is the individual through its creative potential a natural question occurs: How may this potential be beneficially exploited, as the conditions of the current context give the impression that the amplification of conformism from the top of the society to its basis (the individual) is absolutely necessary?

It is well known that the rules restrict the individuals' liberties, but the basic condition to show creativity at its true level is precisely the liberty.

Why is the creative potential important? In my opinion this represents a genuine and priceless treasure of the most amazing being, the man, as it is the engine of developing human civilization.

Currently it is in real danger because both its improvement and use start to be restricted.

A new question emerges as regarding things from another perspective: if in 2000 years some remarkable people succeeded to change so much the mankind, what would happen if each of us would discover its own creative potential and put it in mankind's service?

Looking at things from the perspective of technological developments in the last years and taking into consideration the value of technological achievements by means of all things making our lives easier, of communication systems interconnecting us with anybody, anywhere and anytime, being as such informed of changes in real time, I consider that now, more than ever, people can do amazing things both as individuals or belonging to groups stimulating creativity, allowing them continuous improvement, as well as support for the materialisation of ideas. These reasons strengthen the idea of a need for a framework where the creative potential to be based on freedom and flexibility.

However, either if we talk about the economic environment, the political one or about any other environment we live in, we cannot fail observing the current tendency of moving towards a new stage, where the standardization concept, in all its complexity shall constitute a new pole around which any human activity shall revolve. Subsequently, questions like the ones below occur naturally: Which are the boundaries of this standardization? How and how much would mankind, the individual and implicitly its potential creative is influenced? Expectations shall be confirmed by results?

In the search for answers, a short analysis of the past shows that the great inventions which changed mankind are individualized, namely that they are the product of some individuals' creativity (Alexander Graham Bell - telephone, Thomas Edison – electrical bulb, Nikola Tesla – alternative current, Gutenberg – printing press and others) who did not obey the rules, moreover in some circumstances fought with the boundaries set by leaders, environment, people etc.

Besides these aspects, we should also mention an aspect which is all the same important, namely the financial aspect, as many of the inventions were impaired by the fact that although the inventors were geniuses, their poverty restricted them putting into practice their ideas. This may be viewed as a delay of mankind's progress and you cannot not ask yourself which is the value of the cost of opportunity for mankind's evolution (in some circumstances – maybe of hundreds of years).

This picture allows us to formulate a first observation: *the human creative potential has a unique character, as it is individual's it manifests favourably when his liberty of action is not restricted and materializes when it is supported by favourable environment conditions.*

It might be understood that imposing some standards, rules having as consequence limitation of some liberties, would adversely influence the human creative potential.

But facing history and the present you may clearly see that a world without rules, standards is not possible and not preferred, as favours disorder and implicitly would increase the destructive potential.

We shall not forget that human creative potential is bivalent, as it may lead both to progress and disaster (many of the inventions considered beneficial transformed in mass destruction weapons – it is superfluous to remember that the greatest and horrible disaster of the mankind is based on Albert Einstein's theory of relativity). So, restricting individual liberties is stimulating individual's creative potential in the negative way?

Under these circumstances we have a second observation: *standards and regulations are basic elements supporting human creative potential as long as help guaranteeing a stable and safe climate and do not produce to the individual feelings of unjustified limitation of his liberties.*

## THE IMPORTANCE OF HUMAN CREATIVE POTENTIAL

The mankind evolution reached a stage when technology allows shortest times you may see accomplished the products of creativity, as this provides a fluency and abundance of ideas, due elimination of uncertainties but especially of errors through practical achievements. In another words you may rapidly transit from theory to practice, thing that may constitute a strong motivation for any individual to lose imagination and create amazing things. In other words what I want to emphasize is the fact that the possibility of ideas materialization in palpable products determines individual's satisfaction level increase, consolidating self-trust and stimulating creativity, important issues for creative potential encouragement of as many individuals as possible.

The reality shows that during the last period a tendency of increasing social discontent level manifested both in employed individuals, regardless of the hierarchical position they have or the way they report to it (employees or entrepreneurs) and also among those who do not belong to this category, as pensioner, unemployed or unoccupied man, both in Member States of the European Union and outside it, in south-eastern European countries.

Although the modern technology allows an easier approach of the activities at the workplace, the work volume is increasing, the performance is decreasing and the level of satisfaction reaches negative boundaries entering the discontent field.

So, what causes such a state of fact?

As working hypotheses:

Possible causes having direct linking to individual

- Lack of professionalization: as result of fast development of all things the work places suffered important changes in a relatively short time, leading to removal of some professions and to the emergence of new ones (coaching, IT)
- Decrease in education level among population: as the statistics of the last years reveal, the education at world's level registers alarming figures for the indicators measuring the rate of school dropout and functional illiteracy
- Change of the perception upon the real needs, as well as creating the favourable climate that you can get what you cannot really afford
- Lack of knowledge in accounting the own value
- Inclination to standardization and favouring the traditionalist development and implicitly some cultural blockings preventing creative potential development.

Or cause independent of it, as globalisation or individuals' migration.

Of them, this paper deals with those having direct connection with the individual. We analyse these aspects from the perspective of individual belonging to an organisation and of the individual

liberty at the workplace in a regulated environment, where the individual should manifest his entire complexity at the true value of his potential.

## **ORGANISATION, RESOURCES, HUMAN RESOURCES – A VISION WHERE THE INDIVIDUAL IS THE CENTRAL ELEMENT**

Paying attention to the organisational environment, we should find at the chapter resources of the organisation: the human resources and other resources.

The man regarded as a resource constitutes for any organization the most complex, unpredictable and valuable resource, as it is the base of transformation of other resources in value-added elements, or oppositely.

Precisely due to this cause the most complex issues occurring in an organisation are generated by “using” of this resource.

All the resources of a company, excepting the human resource, may be submitted to rigorous and standardized use rules with a high level of predictability of the final results. But the man as resource is a unique and complex “system” who from my point of view should not be submitted to standardization except some clear and well delimited situations if we want to obtain some remarkable results and implicitly some substantial profits (the final aim of any economic activity).

It is preferred that the general standards and rules of an organisation to be drawn up following some analyses and individual assessments, as such to represent the interests of all and subsequently they should be converted in individual values system of each member of the organisation to the extent it is possible as any limitation or rule to be understood as an advantage for the individual and not a restriction (transforming rules from enemies in allies).

The value of the human resource permanently changes due to its capacity to assimilate information and transform them in knowledge, knowledge as developed in time transforms in what we call experience, either professional or life experience. No one can exactly say how small or big this value is because it is a variable depending on some essential elements: the individual’s personal dowry (the set of abilities and knowledge, as acknowledged or not an individual is born with; in current language the personal dowry notion is met under the name of talent), his awareness ability and environmental conditions.

An individual’s capacity to assimilate and exploit the knowledge depends to a great extent of this personal dowry, of the measure he is aware of its existence but to a greater extent of the set of environment conditions where he manifests, develops, improves and exploits this knowledge (financial conditions, access to education and information etc.). In other words, no matter how hard we would try for example, to transform a mechanical engineer in a doctor, this would be impossible,

except we are satisfied with average results. Supposing that through hard work, an exceptional learning capacity and strong motivation would succeed to reach a certain level of knowledge, he would not be able to get performance in this profession as he hasn't personal dowry.

In fact my intention is to emphasize the fact that in general people cannot be aware of their personal dowry, practicing professions for which they have no talent, as the source which is permanently feeding the native talent is drained, or more precisely it did not exist. If you want you can imagine this presentation as a fir tree planted in the desert. What changes of development would have? Maybe as long as someone wets it enough, but water is unlikely to be enough for its great development as would happen in its original environment. The same chances in obtaining professional performances have those practising professions which do not assimilate.

Therefore it is very important that everyone discovers in dully time personal dowry, an important contribution to this may have the specialised persons in this field.

The most important obstacle met in the stimulation process of an ascendant trend of the human value consists of low individual's capacity to be aware of personal dowry. It often happens that individuals discover their talent at senior ages but most of our fellows never get to this point.

On the other hand, the personal dowry without material support and creation of some favourable conditions of showing it is in vain and as example the most conclusive to me seems to be TV talent shows where you may see very many people belonging to different social categories and with different professional training, presenting their talent on the stage and almost in all cases it has no connection with profession. These shows represent for them real opportunities to manifest their talents, as offering them something they cannot afford (and it is essential to not transform personal dowry in uselessness), namely: environment conditions (popularity, money etc.). This is similar to the situations inside organisations and as long as the collocation "the right man in the right place" is not complied with, one cannot talk about performance.

It may be highlighted also the aspect that any resource remains in its pure condition as long as the human factor does not hinder it, namely the human resource. I consider in this respect that the human resource of a company must be very well separated by other resources of it.

In fact the biggest problem of each contemporary organization is precisely this human factor classification in resources category with all consequence of this classification, especially the aspects concerning standardisation processes, as this allowed the application of some universal character methods (the same as in non-human resources) and established some limits of action applicable to some group of persons classified in certain activity categories called departments (logistics, marketing, production, legal assistance etc.), without considering the human nature and individual's uniqueness.

Basically, at this time it is simply happening nothing but the application of some rules acting in an completely unfavourable way upon the individual as a whole, upon people's creative-innovative potential, who are transformed into executing robots, which in time leads to self-esteem altering, so they are inculcated the idea that their job is nothing more than what the bell meant for Pavlov's dog.

So, without truly understanding the individual, going beyond CVs and standard interviews and without stopping applying "bulk" rules upon the people in an organisation, major changes cannot be obtained as materialized in a valuable increase of the organisation as a whole.

Therefore, in my opinion important things should be considered to obtain long-lasting results in a world characterised in a single word: speed.

In this respect, future designing absolutely needs personal dowry discovery from early ages and children orientation to those areas where their talents be developed, as such when mature this dowry shall be a solid basis for their future evolution and for their contribution to the mankind evolvement. I would stress here children education by means of their talents and not by means of their parents' expectations or failures (are many examples of parents who torment on purpose their children with useless piano, dance lessons and other activities although they are talented for example, in mechanics, natural sciences etc.). How may be handled this situation? Maybe, the simplest method would be the authorized and correspondingly regulated intervention (here comes the positive part of regulations / standards) of some specialized persons in charge of discovering each child's talents, bringing it to the knowledge of the parents and including the children in groups with the same orientations, as such their preparation continuously stimulating their potential. The children represent the future of tomorrow organisations and due to this reason it is very important this early process of professional orientation.

As considering the current situations within organisations, my personal recommendations would be passing from the formalism manifested in all fields and at all levels, to individual point wise orientation, both as concerning the selection process of the future members and the activity of the organisation as a whole. As I previously mentioned, the recruitment process of the future members of an organisation should disobey the current patterns, beyond CVs and formal interviews and pay greater attention to the individual by means of his personal dowry, of his expectations related first with his personal life and then those of the organisation he shall belong to, expectations which shall overlap over organisation's to such extent as those shall become component part of the future member's expectations.

Regulation of framework of activities developing must have flexible aspects as regarding liberty of creation of the individual and to rapidly correct the vulnerable points concerning work safety and security. Generally, the regulations determine emergence of some conflicts when the liberties and

restrictions are put in balance, but both the causes and the effects may be diminished by the intervention of specialised persons in modern activities, as coaching, which may find ingenious solutions as normality and balance status be re-established and so the results not be altered.

Both learning ability and how the information is assimilated and transformed in knowledge are different from one individual to another. This is why the organisational activities intended for professional development through learning must also gain individualised character, meaning the training programmes shall be customised and only the activities needed information changes shall be delivered in as focused sessions as possible with a high level of practical applicability (as making some simulations similar to laboratory experiment principle). In another words in a world where information is available in real time, anywhere and anytime, why do you think that someone shall want to partake to long and tiring training sessions where a lot of talk and little examples is and where all attendees are as “batch”?

At the same time brainstorming removal is indicated and its support at individual level with the possibility of interactive meeting which shall facilitate finding the best idea.

Coaching providing in organisations as required activity for its value increase by each individual's value increase, member of organisation as the coaching works with the individual helping him being aware of his values and vulnerabilities and determining him to find solutions as to intensify positive potential and keep under control the negative one. This activity should not be regarded as a “luxury” activity to which has access only top managers but it should be used for all personnel categories in an organisation.

As I consider this would be the future challenge for those involved in human resources field as conceiving some customized learning programmes, composing simulations, creation of some experiments supposes analysis and understanding capacity of the organisation and of the individual in the smallest detail, creativity, innovation but also the capacity to relate to other fields connected to human resources field. The future professionals in this field must be connected to the same extent to the external environment of the organisation and also to its internal environment without failing to report to the organization by means of the individual.

As for all these changes be materialised in positive results, it is absolutely necessary periodical professional assessments for each member of the organisation not only by means of organisation's interests in relation with the individual but also the individual's with the external environment, underlining aspects describing as clearly as possible individual's nature and character but also his level of awareness as concerning its potential and the method he reports to organisation's objectives. I consider in this respect that specialised assessing persons shall be out of the organisation as the



assessment shall be delivered by modern, professional means and methods and the assessment shall be as objective as possible.

Individual periodical assessment is essential as it is the most relevant method of observing the changes that may occur both professionally and personally.

## CONCLUSION

People employment must take into account both professional training but also the method it reflects personal dowry use. Aspects shall also be considered influencing different characteristics, such as the emotional component, learning ability, values and compatibilities with other members of teams he shall be part of etc., all of which are analysed in terms of expectations.

Professional and personal performances permanent assessing, underlining individual's expectations.

The motivation system shall be established individually and permanently updated according to the changes occurring at individual expectations level.

Company mission and vision notions is "translated" by means of individual's expectations as he shall assimilate them as belonging to its own wishes.

Orientation to another area of activity when it is observed incompatibility with the held position, if by coaching programme the incompatibility issue was not solved.

A priority for any organisation shall become keeping experienced personnel knowledge reserves and their use for future professionals training, as well as experts' stimulation to creation and innovation areas which do not necessarily have connection with the current activity.

Organisations must understand and determine current existing conformism adaptation and modifying mentalities as concerning the individual as component part of the organisation by means of his creative capacity and contribution to the whole value of the organisation which may have negative consequence upon human creative potential if these are seen as enemies and not as allies.

## IMPACT OF CORPORATE R&D ON EFFICIENCY IN OECD INDUSTRIES

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### ABSTRACT

Efficiency and productivity was always being a key issues in economic science. The analysis of the impact of R&D (Research and Development) has been extensively studied in industries and countries with more or less aggregated level. This paper aims to investigate the impact of corporate R&D in performance of low-tech industries, medium-tech and high-tech in OECD countries.

The paper aims to answer the questions: Does the impact of R&D is significant for all types of industries? If so, what are the differences and the magnitude of these effects in each of these types of industries?

To this end, an unbalanced dataset from 2000 to 2011 were collected for the main countries of Europe and the United States concerning low, medium and high-tech to analysed the impact of the magnitude of corporate R&D and capital accumulation on productivity of these industries. The productivity of industries was measured by stochastic parametric frontier functions, in order to measure the efficiency of R&D and accumulation of capital on labour productivity.

The main results highline confirm the impact of corporate R&D on productivity of high-tech industries, but for other industries that relations are not clear. However, capital accumulation became crucial on low technology to improve their performance. These results, although need to include a more extensive dataset of industries across countries, refers the need of policy and decision makers allocate public funds for R&D in high-tech industries, while the investment in capital seems crucial, particularly in low-tech industries for improve the productivity.

**Keywords:** *corporate R&D, productivity, technical efficiency, stochastic frontier analysis; OECD countries.*

### INTRODUCTION

Efficiency and productivity has always been a crucial issue in economics issues. The R&D impact analysis has been widely studied at industry and country levels more or less aggregate. Research and

development (R&D) has been generally assumed to have has a positive impact on business productivity (Griliches, 1979; Kumbaker et al., 2012, Liik et al., 2014).

Ortega-Argilés et al., (2014) Marsili (2001); von Tunzelmann and Acha (2005); Mairesse and Mohnen (2005) debate the alleged advantage of different kind of industries, namely the low-tech over high-tech sectors in achieving additional and higher efficiency gains from R&D investment. The argument is that 'catching-up low-tech sectors' are investing less in R&D but would benefit from a 'late-comer advantage', whereas firms in high-tech sectors might be affected by diminishing returns. According this argument, the relationship between R&D and productivity growth is expected to be weaker in high-tech than in low-tech sectors (Kumbaker et al., 2012, Ortega-Argilés et al., 2014).

Beside that, previous authors identify that additional R&D activities exhibit a higher marginal impact in high-tech sectors and that additional capital investment shows a higher marginal impact in low-tech sectors. So, the main goal is to investigate whether low-(high-tech) sectors are more (less) successful in achieving productivity gains from R&D activities.

However, from the viewpoint risk, there exists great uncertainty in the R&D process when the high-tech firms cannot precisely forecast the market demand or make a breakthrough in technology (Wang, 2007).

Hoskisson & Hitt, (1988); Hitt & Hoskisson (1997) and Chang & Hong, (2000) find that R&D intensity and operational performance are negative for firms diversifying in business growth. Similar findings are reported by besides that has been understood by policymakers and researchers around the world and reflected in different countries setting targets for innovation inputs and outputs, probably the most well-known one being the Lisbon target, setting the R&D expenditures to the 3% level of GDP by 2020 among the European Members States (Liik et al., 2014). It has also been questioned whether the same targets should be set for countries at different levels of development and different industrial structures (dominating low-tech or high-tech industries) and whether the indicators used to compare countries' innovation performance, like the European Innovation Scoreboard, are always meaningful (Schibany & Streicher, 2008; Liik et al., 2014).

Despite Kumbhakar et al., (2012) investigate the impact of corporate R&D activities on German Firms' performance, measured by labor productivity over the period 2000 to 2005 and Liik et al., (2014) analyzed the impact of the R&D on industry productivity and level sector in OECD countries over the period 1987-2009, but more centered at Baltic countries level with the USA as the frontier.

This paper contributes to the literature in two ways: First in the present post-subprime crisis scenario which the European countries still have a very modest growth of their industries, it is crucial that the resources spent on R&D had an impact on innovation and technological progress in these countries, and, secondly, because the resources spent on R&D are scarce, it is crucial to know which contribute in

the performance of the different industries in order to provide guidance to decision makers about the optimal allocation of R&D resources across industries and countries.

## LITERATURE REVIEW

European Programs establish the Europe 2020 with the EU countries involved (with a detailed research programs, namely the Horizon 2020) and as an European innovation policy and advises the Member States to strengthen their knowledge base to remain competitive and support programs for European companies to massively invest in research and innovation in order to foster a smart, sustainable and inclusive economic growth strategies as established in (European Commission 2010 and Horizon 2020). The Innovation Union flagship initiative of the EU2020 Strategy has confirmed the Lisbon strategy commitment to higher levels of R&D intensity as well as to changes in organizational R&D and framework conditions (Cincera et al., 2014).

The objectives rest partly on proposals to increase publicly-funded R&D, and business private funds as called as BERD. The main goal of this policy is the EU aim to approach and possibly surpass the effort made by competing economies, especially Japan and the US according Cincera et al., 2016). Soete (2006), refers that the EU has failed to convince the private sector and its citizens to invest in knowledge, the key to its own long term future.

On the other hand, the effect of R&D on firm performance has been widely studied in the literature since the pioneering work of Griliches (1979) and more recent contributions by Klette and Kortum (2004), Janz et al. (2004), Rogers (2006), Loof and Heshmati (2006) and Heshmati and Kim (2011) Kumbhakar et al., (2012); Liik et al., (2014); Cincera et al., (2014). However, little literature, except the last authors referred has focused on the simple relationship between R&D and firm's technical efficiency in countries or cross them.

Although at the corporate level this relationship become known (Mairesse & Mohnen, 2010), yet raised doubts at the relationship between R&D expenditures and GDP growth on the effectiveness of an innovation policy that attempts to improve aggregate productivity only based on increasing R&D intensity (Pessoa, 2010), could be some necessary minimal critical level for the positive relationship to show up (Siliverstovs, Boriss (2016) and Liik et al., (2014) and has different impacts depending on industries types (low, medium and high tech) (Zhong et al., 2011; Kumbhakar et al., 2012; Liik et al., 2014) and across the EU countries and USA industries (Ortega-Argilés et al., 2014). That motivates the study of the comparison of the efficiency of the innovation production processes in different countries.

Previous authors has shown not only that the R&D-productivity link is positive and significant at the microeconomic level but also that this relationship is stronger in the high-tech manufacturing sectors

(Ortega-Argilés et al., 2014). These authors analyzed the lower European productivity performance in comparison with the US industries. The conclusions suggest that both in manufacturing, services and high-tech manufacturing sectors US firms are more able to translate their R&D investments into productivity increases and low tech industrial and middle- and low-tech sectors implies a lower capacity to translate R&D efforts (Ortega-Argilés et al., 2014).

Pessoa (2009) argue that GDP per capita and R&D intensity there are many factors omitted in the typical regressions, which affect simultaneously TFP (total factor productivity) growth and the incentives to invest in R&D. But the major works on this field are mainly based on macroeconomic level models and not from industry level models.

## DATA

The present study is based on industry-level (by International Standard Industrial Classification of All Economic Activities (ISIC4) data comes from OECD countries, presently only available for 15 countries from STAN database (under construction) and combined with the last database STAN - ISIC3 for the missing countries and values, over a 12-year period from 2000 to 2011, the latest data available, forming an unbalanced panel. Two countries was initially considered outliers, namely a Korea, a Sweden. We had considered industries at two digits level for low-tech (D10 to D12); medium-low-tech (D19 and D22) and high-tech industries (D21 D26) according the ISIC 4 classification after conversion to ISIC3 (with different nomenclature for the missing countries and values). Table A1 in the Appendix provides an overview of the sectors analyzed, grouped into the three technological categories. The analyzed countries<sup>1</sup> include the European Union available as USA, because in order to construct the efficiency frontier we would need data from countries with the highest levels of productivity in the respective industries (Liik et al. 2014). We utilized two OECD combined datasets: the OECD STAN Database for Structural Analysis (ISIC Rev. 4) (for measures of output, labour input, and capital) and OECD ANBERD STAN3 and STAN 4 for R&D expenditures in Industries (ISIC Rev. 4), because the last one doesn't cover all the OECD countries, but only 40. So these work is in continuous progress as the results of the database will be full available.

The variables computed from the database was:

E – Number of employees per industry typology;

GFCF – Gross fixed capital formation and current prices;

VALD – Value added at current prices;

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<sup>1</sup> Austria, Belgium, Czech Republic, Denmark, Finland, France, Germany, Hungary, Italy, Netherlands, Norway, Slovenia and the United States. For the high tech industries, in order to avoid collinearity of the variables, due the low degrees of freedom, we combine STAN 3 database with STAN 4 -ISIC to joint the Mediterranean countries (Portugal, Spain and Greece) and more European OECD countries, namely the Baltic countries.

R&D – R&D expenditures in Industry at current prices.

So the focus was on singling out sectoral differences in the relationship between R&D and productivity. All the data was at national currency and current prices, so was deflated with the respective deflators GFCF; VALD and R&D from OECD database and updated for the base year, thus transforming all the values at constant prices at national currency. Then they were uniformed of national currency to US per constant dollar and p.p.p. through the OECD Database again. The industry-level input and output variables are aforementioned transformed for subsequent after logarithization (ln).

In this paper, we allow for different technological regimes across industries reflected by the characteristic R&D intensity of a given sector. Considering high, medium and low-tech sectors separately allows us estimating industry-specific frontiers and reflects the corresponding technology most adequately, according Kumbhakar et al., (2012) and Liik et al., (2014). So, R&D expenditures (accumulated knowledge) and investments into physical capital was capitalized, in order to provide R&D and physical capital stock variables. For this purpose, the perpetual inventory method was used (Kumbhakar et al., 2012 and Liik et al, 2014) based on the follow equations. R&D capital stock in time period  $t$  derives as follows:

$$R\&D\ capital_t = R\&Dcapital_{t-1}(1 - \delta) + R\&Dt \quad (1)$$

where  $\delta$  is the depreciation rate and  $R\&D\ capital_t$  are R&D expenses during the period  $t$ . For the following period R&D capital is calculated at the time  $t_0$  as follows:

$$R\&D\ capital_{t0} = \frac{R\&DAcumulated_{t0}}{(g_{i,t} + \delta)} \quad (2)$$

Where  $R\&D\ capital$  is accumulated R&D expenditure,  $t$  is the time,  $i$  is the industry level. The same procedure was used for fixed capital accumulation (GFCF).

## THE METHOD

The defining an efficient frontier function in order to measure the performance of productive units has been done along time for many authors in different sectors, countries, and industry-level aggregation. Two main general approaches have been applied to identify efficient frontiers: parametric and non-parametric methods.

The literature refers that both have strengths and limitations, but the choice mainly depends the most appropriate for a certain research question, data nature and main goals of the work.

The main difference between the two methods is that the parametric approach requires the construction of a functional form and test hypotheses possible, take into account statistical noise and provide estimates of the parameters of production factors, elasticities, etc. making possible new interpretations, impose a functional form to be estimated (although it may be flexible), together with the assumptions regarding the distribution of the compound error term (Kumbhakar et al., 2012).

On the opposite way, the non-parametric method (mathematical programming technique) - Data envelopment analysis (DEA), does not require these assumptions and is comparatively more easy to calculate according Kumbhakar et al., (2012). However, when wishing to study industries, such as those present with different technological levels has severe limitations because each of the industries has a functional form that are not common to the low-and medium high-tech industries in different countries. On the present study low; medium and high-tech industries across the OCDE, so is not recommended the use of non-parametric frontiers such as DEA.

Kumbhakar et al., (2012) presents the main advantages and disadvantages of parametric approach. So, taking the strengths and limitations of the method into account we select the parametric stochastic frontier technique (SFT) in this study according Kumbhakar et al., (2012) and Liik et al., (2014).

The stochastic frontier production function was first proposed by Aigner, Lovell and Schmidt (1977) and Meeusen and van den Broeck (1977). The original specification involved a production function specified for cross-sectional data which had an error term which had two components, one to account for random effects and another to account for technical inefficiency. This model can be expressed in the following general form:

$$VALP/E_{ij} = x_{ij}\beta + tij + (V_i - U_i) \quad i=1, \dots, n, \quad (3)$$

Where:

$VALP_{ij}/E_{ij}$  is the logarithm of the accumulated add value/employer) of the  $ij$ -th firm and industries;

$x_i$  is a  $k \times 1$  vector of (transformations of the logarithm Accumulation of Capital/Employer) of the  $ij$ -th firm and industries;<sup>1</sup>

$\beta$  is an vector of unknown parameters;

$tij$  – is the time  $i$  is the firm  $j$  is the industry.

the  $V_i$  are random variables which are assumed to be *iid*.

$N(0, \sigma_v^2)$ , and independent of the  $U_i$  which are non-negative random variables which are assumed to account for technical inefficiency in production and are often assumed to be *iid*.  $|N(0, \sigma_u^2)|$  (Coelli et al., 2005).

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<sup>1</sup>For example, if  $VALP/E_i$  is the log of output and  $x_i$  contains the logs of the input quantities, then the Cobb-Douglas production function is obtained.

This original specification has been used in a vast number of empirical applications over the past two decades. The specification has also been altered and extended in a number of ways. These extensions include the specification of more general distributional assumptions for the  $U_i$ , such as the truncated normal or two-parameter gamma distributions; the consideration of panel data and time-varying technical efficiencies as used on the present work.

## RESULTS AND DISCUSSION

Table 1 presents the models' parameters and efficiency (TE) estimates for different industries, from low to medium high to high technologies and for the whole sample. The program used was FRONTIER 4.1. and testing after with econometric models. The results highline confirm the results of the previous authors, namely, Kumbhakar et al., (2012) and Liik et al., (2014).

The models show a reasonable degree of adjustment to the data. Nevertheless,  $R^2$  presents low/medium values due the limited of degrees of freedom, caused by incomplete STAN 4 Database, while STAN database 3 only contains complete data until 2008. A linear time trend was used to capture shifts of the production function (technical change) and was found to be significant (Table 1). Accordingly, as a whole, technological progress at the rate of about 2.1% per year. For the other industries technical progress is respectively, 1%; 6%; and 2.3% in low-tech industries, medium, high tech sample industries. The results prove a growth rate of industries during the review period varies annually. These results are according the previous authors, but with different due the differences on data, industries and time trend.



Table 1. Models' parameters and efficiency estimates for different sectors.

Model	Whole sample	Low-Tech	Medium-tech <sup>18</sup>	High-tech
<i>ln R&amp;D/E</i>	-	-	-	_0,28
<i>ln K/E</i>	0,690**	0,742*	0,221***	0,259**
<i>constant</i>	0,356**	0,441*	2,501***	1,857**
<i>time</i>	0,021	0,001	0.0670	0,023
<i>Sector dummies (1)</i>	0.6393	0.177	0.148	0.670
<i>R<sup>2</sup></i>	0,508	0,37	0,545	0,41
<i>White heteroscedasticity test</i> <i>(p-value)</i>	2,77614 0,0000	2,184 0,0000	-0.3021 0,0000	
<i>t K</i>	15,802**	3,881*	0,024***	0,076**
<i>t R&amp;D</i>	0,044**	--	0,048***	-
<i>t constant</i>	3,897	0,221*	0,533***	0.107**
<i>log likelihood function</i>	-0.99126185E+03	-0.33469816E+02	-0.16770188E+03	-0.16770188E+03
<i>Mean efficiency (TE)</i>	0,367	0.1050	0.368	0,409

Source: authors' calculations. Note: \*p < .05; \*\*p < .01; \*\*\*p < .001. (1) joint Wald test

<sup>18</sup> From D19 e D22, medium-high industries

Table 1 results show that capital accumulation is not relevant for the high tech and medium tech industries, but the opposite occurs with low tech industries when capital accumulations seems crucial to increase the labor efficiency. On the opposite way these industries not present a clear need of R&D to improve their efficiency.

Results from Figure 1. about intra-industry distribution of efficiency in the manufacture of food products, tobacco and beverages, confirm the main countries with high efficiency are Denmark in addition to USA.

The main results from Figure 2; 3 and 4 about medium and high industries efficiency highline confirm the great values of efficiency manufacture of medium and high industries comes from the Finland and Demark (as USA as frontier). The other countries of European Union present a gap, excluding Germany and UK. The cluster of Baltic and Mediterranean countries are associated a low efficiency groups when compared with the northern and middle European countries.

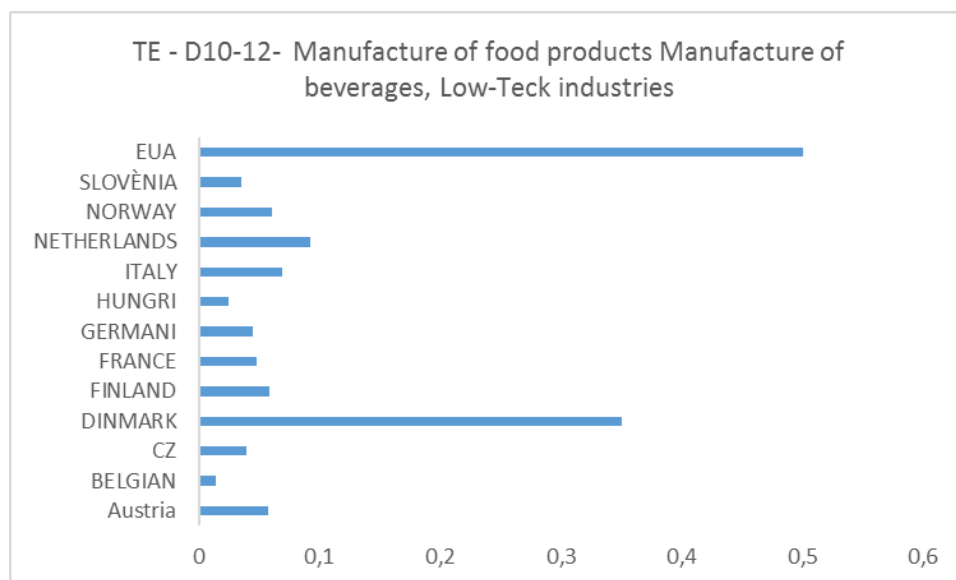


Figure 1. Intra-industry distribution of efficiency in the manufacture of food products, tobacco and beverages (D10–12). Source: authors' calculations.

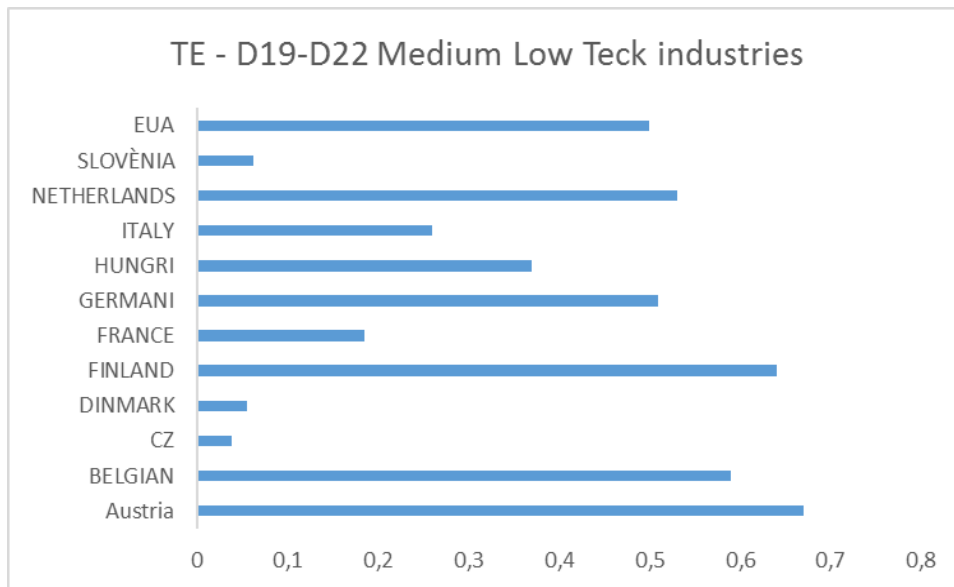


Figure 2. Intra-industry distribution of efficiency in the Manufacture of coke and refined petroleum products (D19) and Manufacture of rubber and plastics products (D22). Source: authors' calculations.

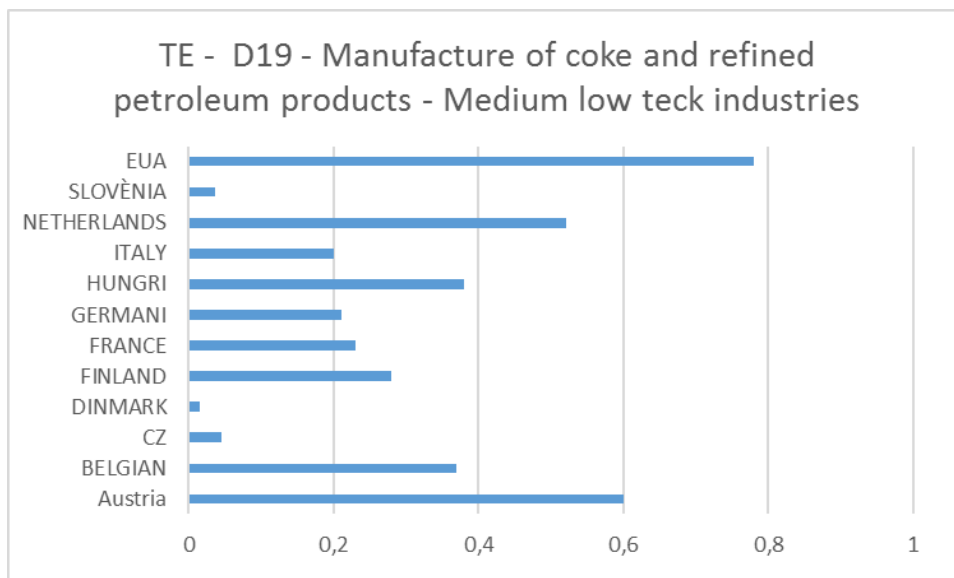


Figure 3. Intra-industry distribution of efficiency in the Manufacture of coke and refined petroleum products (D19) Source: authors' calculations.

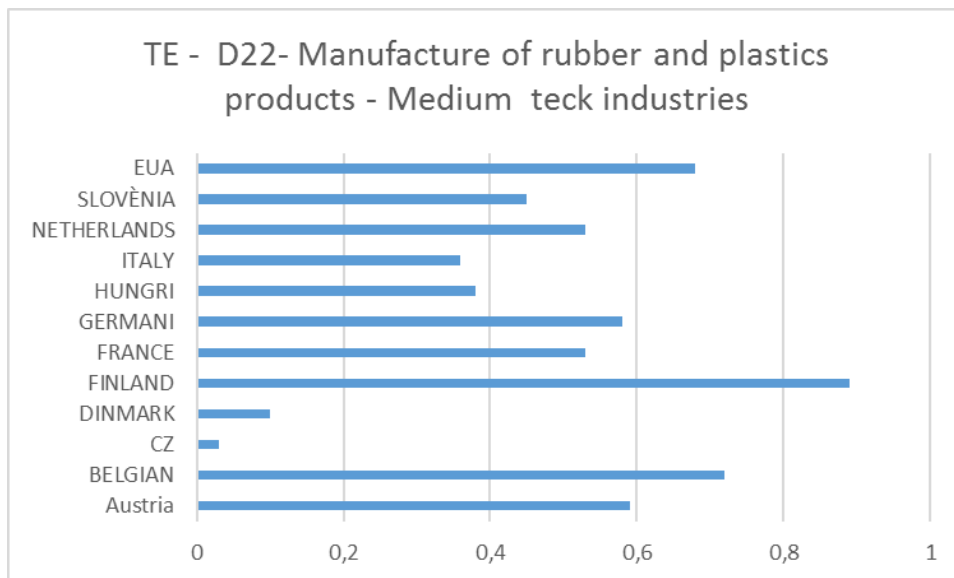


Figure 4. Intra-industry distribution of efficiency in the Manufacture of rubber and plastics products (D22). Source: authors' calculations.

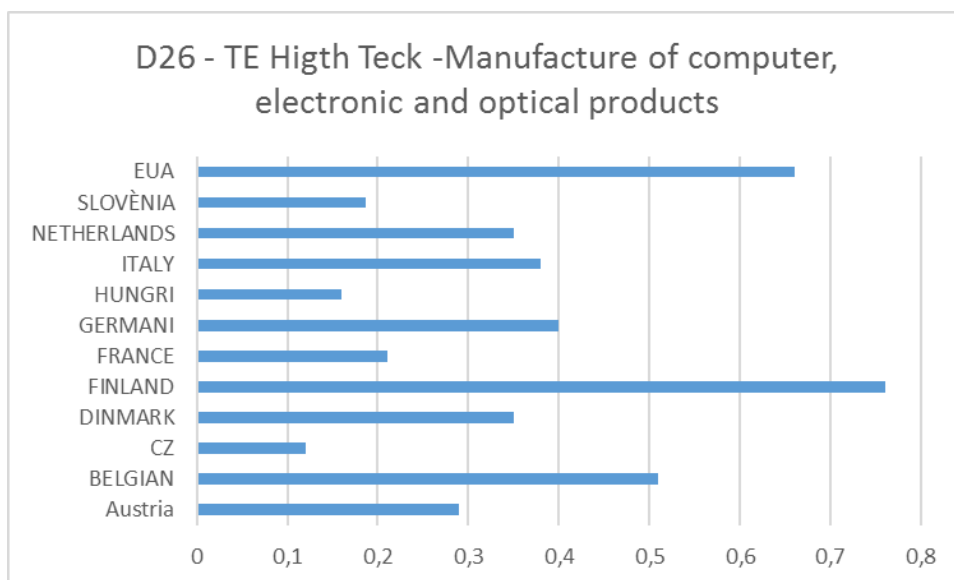


Figure 5. Intra-industry distribution of efficiency in the Manufacture of computer, electronic and optical products (D26) and Manufacture of pharmaceutical products and homeopathic pharmaceutical (D21). Source: authors' calculations.

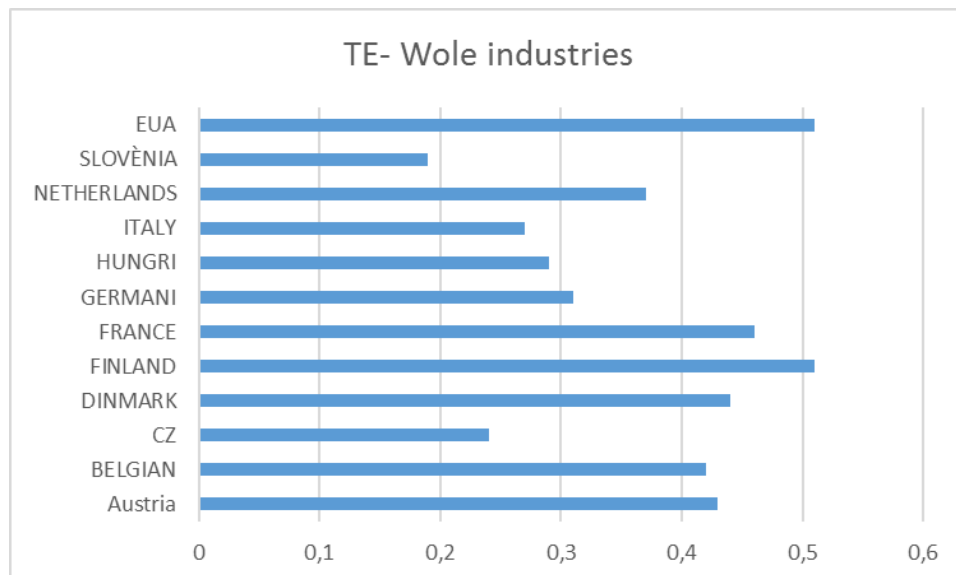


Figure 5. Intra-industry distribution of efficiency in the whole industries. Source: authors' calculations.

## CONCLUSIONS

The present results show that high-tech industries are on general associated neither with the higher efficiency or productivity values that the other industries with medium and low technologies. These industries are also associated with higher growth rates of knowledge. These results were according the previous authors. The R&D is crucial for the development of a competitive high tech European industry across the world. But for other industries the capital accumulation seems crucial for the development of a medium and mainly low tech industries strong across the world. So the public and privates funds must charter the industries according to their needs and technological performance.

That implies that decisions makers may give more attention on European programs about the European funds distribution. In particular, more funds on R&D must be attributed to the high-tech and medium tech industries across all the industries and European countries. On the opposite way the accumulation capital must give priority to the low tech industries.

This work in in development, future research must include more detailed panel data across European and Eurasian and USA industries. More detailed dataset could improve the results to.

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# EUROPEAN PUBLIC SECTOR ACCOUNTING STANDARDS (EPSAS) AND FISCAL TRANSPARENCY: HARMONIZATION OBSTACLES IN THE ITALIAN CASE

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## ABSTRACT

Fiscal transparency is only one aspect of the 'transparency agenda' (Heald, 2003, 2006, 2012; Ball, 2013). There is tension between transparency and surveillance (Heald, 2013), with significant implications for the behaviour of some specific actors in the fiscal policy process. Academics are unlikely to lead the fiscal transparency agenda (Hagemann, 2010; Ball, 2012; Heald, 2003, 2006, 2013) but can contribute through: conceptual and normative studies; econometric investigations of variables promoting or obstructing fiscal transparency; assessments of the outcomes of fiscal transparency practices; and the conduct of theoretically-informed case studies at entity or country level. These difficulties led to the creation of a set of European Public Sector Accounting Standards (EPSAS). The paper analyses the issues related to fiscal transparency obstacles (Heald, 2013) and the harmonization of accounting systems among EU public administrations. In particular, the focus will be on the applicative problems resulting from the Italian *Tax amnesty* and the relevant *anonymity declaration*.

**Keywords:** *EPAS, fiscal transparency, accounting harmonization, accountability, tax amnesty, tax shield*

## INTRODUCTION

The introduction of the new accounting rules is aimed to facilitate the comparability of financial statements and to improve the quality and transparency of economic and financial information, favouring the increase of efficiency and integration, at least at European level (Brusca et al, 2013; Jorisen et al, 2013).

Nowadays the topic of fiscal transparency is not merely a subject of interest amongst academics of public management. It is becoming more and more a sensitive issue for public managers and practitioners from their organizations, as they are confronted on a daily basis with the problem of delivering - efficiently and effectively - public policies aimed at fostering harmonization of accounting



systems among EU public administrations (Jannelli, Tesone, 2013; Brusca, Caperchione, Cohen, Manes Rossi, 2015)

Fiscal transparency is only one aspect of the 'transparency agenda' (Heald, 2003, 2006, 2012; Ball, 2013). There is tension between transparency and surveillance (Heald, 2013), with significant implications for the behaviour of some specific actors in the fiscal policy process.

Academics are unlikely to lead the fiscal transparency agenda (Hagemann, 2010; Ball, 2012; Bergman, 2014; Heald, 2003, 2013, 2015) but can contribute through: conceptual and normative studies; econometric investigations of variables promoting or obstructing fiscal transparency; assessments of the outcomes of fiscal transparency practices; and the conduct of theoretically-informed case studies at entity or country level. These difficulties led to the creation of a set of European Public Sector Accounting Standards (EPSAS).

The paper analyses the issues related to fiscal transparency obstacles (Heald, 2013) and the harmonization of accounting systems among EU public administrations (Benito, Brusca, 2004; Christians' et al., 2010; Ball, 2012; Malson, 2012; Jorge, Jesus, Caperchione, 2015; Brusca, Caperchione, Cohen, Manes Rossi, 2015). In particular, the focus will be on the applicative problems resulting from the Italian tax amnesty (*Tax Shield – Scudo Fiscale*)(Esposito, 2012) and the relevant *anonimity declarations*.

## RESEARCH METHOD

The paper uses a case study method (Yin R.K. 2005, 2013) which is a valuable tool for understanding the complexities faced when trying to facilitate the comparability of financial statements and to improve the quality and transparency of economic and financial information, this way favouring the increase of efficiency and integration, at least at a European level.

The case under examination is the one related to the Italian Tax Shield and uses a deductive and inductive approach to describe the phenomena and the dynamics related to the processes entailed.

The paper analyses the issues related to fiscal transparency obstacles (Heald, 2013) and the harmonization of accounting systems among EU public administrations. In particular, the focus will be on the applicative problems resulting from the *Italian Tax Shield* and the relevant *anonimity declarations*.

Given the high level of generability of the case study itself, the paper aims at supporting scholars and practitioners alike who are called to pursue fiscal transparency and the harmonization of accounting systems among EU public administrations.

The paper fills the gap in the examined area of fiscal transparency.

## RESEARCH OBJECTIVES

The aim of this paper proposal is to find answers to three research questions:

*RQ1: In what way fiscal transparency can contribute in fostering harmonization of accounting systems among EU public administrations?*

*RQ2: How could fiscal transparency eventually contribute to facilitate the comparability of financial statements and improve the quality and transparency of the economic and financial information provided by EU public administrations?*

*RQ3: In Italy, are EPSAS an incentive for fiscal transparency or for fiscal anonymity? Is Italy, ready for EPSAS?*

The case-study method can help understanding fiscal transparency obstacles and surveillance (Heald, 2013), with significant implications for the behaviour of some specific actors in the fiscal policy process, in tax amnesties or fiscal condonation cases (Tax Shield – Scudo Fiscale).

In general, the case-study method (Yin, 1989, 1995), has a twofold aim of detailing the main characteristics of the phenomena and of understanding the dynamics of a given process. From a methodological point of view, the development of a case study represents a “strategy of research that is concentrated on the comprehension of the dynamics that characterize specific contexts” (Eisenhardt 1989, p. 532).

Qualitative approaches and forms of research in action (Fayolle, 2004), allow to describe, explain and understand situations in their own dynamics and their own evolution.

The case-study method represents a valuable tool to ‘capture’ different dimensions of fiscal transparency and the harmonization of accounting systems among EU public administrations, from the analysis of the case study itself as far as suggesting criteria for further action (Craig 2003). In particular, the focus will be on the applicative problems of public (dis)value (Esposito, Ricci, 2015), resulting from the Italian Tax amnesty (Tax Shield – Scudo Fiscale) and the relevant anonymity declarations.

## EPSAS AND FISCAL TRANSPARENCY: A LITERATURE REVIEW

The financial crisis has reinforced the importance of controlling the deficit, especially in the European Union, where fiscal and budgetary stability is not robust. The European Commission is working on several fronts to achieve the implementation of uniform and comparable accruals-based accounting practices for the European Union Member States and for all the sectors of General Government, that is, Central Government, State Government, Local Government and Social Security, considering that at the same time it can help ensure high quality statistics (European Commission, 2013a). “These initiatives have become stronger in force in the light of the current public sector financial crisis, were

the role of fiscal discipline in safeguarding economic and monetary union is apparent. The repercussion of this is that monitoring fiscal discipline should rely on high-quality measurement of the fiscal situation of each Member State within the European Union", (Aggestam, Brusca, Chow, 2014). According with authoritative professional and scholars EPSAS are a necessary tool for fiscal integration in the EU (Alt, Lassen, 2006; Glennerster, Shin, 2008; Wehner, de Renzio, 2011; Allen et al., 2013; Bergman, 2014; Heald, 2003, 2013, 2015), and fiscal transparency (Heald, 2006a) is a critical point and a pre-condition for harmonization of accounting systems among EU public administrations (Bentio, Brusca, 2004; Christians' et al., 2010; Ball, 2012; Malson, 2012; Jorge, Jesus, Caperchione, 2015; Brusca, Caperchione, Cohen, Manes Rossi, 2015). Transparency now makes remarkably frequent appearances in political speeches and bureaucratic documents, with the putative transparency obligation being placed on others. It is often claimed that others should be rendered accountable, without consideration of the extent to which there should be reciprocal obligations of transparency (Heald, 2015). Like transparency itself, fiscal transparency has become an umbrella term, which therefore requires unpacking. Heald (2003) "distinguished between nominal transparency and effective transparency, the gap being partly caused by deniable-at-the-time practices", which then spread across the world into jurisdictions with less capacity to manage complex off-balance sheet obligations (RQ1). International organizations then play catch-up, in the form of changing definitions and strengthening reporting obligations: this sometimes looks like closing the stable door after the horse has bolted. The IMF has done this on PPPs (Akitoby, 2007; Rial, 2012), as has the OECD (2012) on the design of PPP programmes" (Heald, 2015). In particular, Heald categorizes eight obstacles to fiscal transparency as *intrinsic or constructed*. As Heald (2015) conceptualizes, "intrinsic obstacles" to fiscal transparency are considered in:

- technical complexity;
- the changing nature of State activities;
- fear of number;
- media negativity;
- denial of legitimacy of "Downards Transparency" claims;
- volume and opaqueness;
- validation of opportunism and cheating by agents;
- endemic corruption.

Table 1: Obstacles to Fiscal Transparency

<u><b>Intrinsic Obstacles</b></u>	<u><b>Constructed Obstacles</b></u>
1. Technical complexity of measurement systems, both financial reporting and national accounts	5. Denial of legitimacy of claims to information (downwards transparency). Information about the financial affairs of state is regarded as the sole preserve of the executive, most likely in (a) non-democratic regimes, and/or (b) where the person and the role of ruler as public authority are not distinguished
2. The well-delineated 'positive' state (which held assets and delivered services) has partly given way to a more-difficult-to-map 'regulatory' and 'contract' state (which has more complex and diffused modes of governance and extensive liabilities) (Majone, 1997). This process has gone further in Anglo-Saxon countries than in much of continental Europe	6. Volume and opaqueness used by governments as tools for managing hostile and aggressive media and for disabling and discouraging users of government financial information. High index scores for fiscal transparency may co-exist with inaccessibility
3. Cognitive problems about numbers that make many elected politicians switch off, and which diminish citizen understanding	7. Perceptions of unfairness may validate cheating in the minds of those subjected to upwards transparency. Those lower down the principal-agent chain manipulate data (for example, project appraisals for Public-Private Partnerships) as a means of 'doing good by stealth', within constraints they cannot challenge
4. Relentless media negativity that interacts with government incentives to 'spin' and 'plant', thereby reinforcing the career advancement incentives of elected politicians not to commit to a scrutiny role	8. Perceptions that rulers engage in fraud and corruption leads to such practices becoming endemic across hierarchical levels. In such a cultural context, all are incriminated whether by commission (personal engagement in such practices) or omission (toleration of what others do, perhaps for reasons of self-preservation). Fiscal data will lack reliability as accounting records will be falsified

Source: Modified and re-sequenced version of Heald (2013, Figure 33.4 on p. 736).

Table 1 shows intrinsic obstacles (as technical complexity, the changing nature of State activities, fear of number and media negativity) deriving from the subject matter and institutional settings. Constructed obstacles (as denial of legitimacy of "Downwards Transparency" claims; volume and opaqueness; validation of opportunism and cheating by agents and endemic corruption), are created by decision-makers whose political or economic interests might be damaged by fiscal transparency (RQ2) (Heald, 2012, 2013).

## **ANONIMITY IN ITALIAN TAX AMNESTY AND FISCAL TRANSPARENCY: “THE SOUND OF SILENCE”**

Some scholars argue that tax amnesty can be a useful “tax policy tool when exploited in exceptional circumstances. Amnesties can also be used systematically as a discriminatory mechanism to improve the efficiency or even the equity of the tax system (Marchese, 2000). Taxpayers participating in an amnesty may also be subject to special surveillance in subsequent years. Of course these policies reduce the amnesty’s appeal and its potential as an immediate revenue source.

If the government is primarily interested in raising revenue and encouraging participation to boost the immediate amnesty’s proceeds, the auditing powers can be limited or excluded, and *anonymity* can be offered to the amnesty participants. One way this can be achieved is by allowing participants to disclose their liabilities and to make the amnesty payments to a third party (such as a bank), which releases a certificate to be used as a shield in case of future tax audits: the 2001 Italian tax amnesty for capital repatriation with these characteristics was called a “scudo fiscale” (tax shield). However, it is also true that the government’s commitment not to access such information may be more or less credible. In Italy, a 2011 law introduced a new tax on capital that benefited from that 2001 amnesty. The new tax was justified on the basis of the benefit principle, with the benefit being continued secrecy to those who entered the amnesty despite newly introduced legislation granting the tax administration easier access to taxpayers’ bank accounts” (Marchese, 2000). Some of these measures as “tax shelter”, or rather, the tax shield can be considered as an instrument capable of performing to a plurality of functions to achieve different purposes.

It is also necessary to emphasize a key feature of return process and the regularization of the activities under review, namely, anonymity: in fact, with regard to the repatriation of assets abroad, their confidential statements, which exclude the criminal liability that is the result of tax assessments on those goods are not fed back to public authority.

With regard, however, the mere adjustment of capital abroad, the taxpayer must notify the tax authorities the detention of themselves outside the borders of national (completely anonymous) by completing the appropriate forms attached to the declaration returns, prepared by the Ministry of Economy of Finance, through the Agency of Entree. This aspect of *anonymity declarations* of the emergence differs significantly from the 2009 Italian tax amnesty provisions concerning the return of capital in other countries in which those who want to stabilize the capital exported must pay in full the taxes evaded in previous years.

In Italy, tax shield also provided non-criminal offense tax, prescribing penalties of up to six years of imprisonment:

- non-declaration of income and unfaithful;

- a declaration by fraudulent use of invoices for nonexistent transactions;
- false representation of records required;
- concealment or destruction of documents;
- false company (accounting fraud).

Tax amnesty tend to undermine the credibility of fiscal transparency policy, and the findings encouraging evasion destroying the credibility of EPSAS the political process of harmonization of accounting systems among EU public administrations (RQ3).

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## INTEGRATED CULTURE SYSTEMS: AN EXPLORATORY RESEARCH

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### ABSTRACT

This paper focuses on the topic of Integrated Culture Systems with the aim to fill the gap in the literature of Public Management and Governance and to provide practitioners with good tools for measuring Public Value.

It is argued, infact, that there is a major opportunity for governments to achieve effective and efficient results in improving their communities by allowing citizens to use performance measurement (Bovaird 2003, Holzer and Yang, 2004; Borgonovi 2008; Bianchi, Williams, 2013) to generate actions towards better public services (Bianchi, 2009, 2012, 2014; Bianchi, Rivenbark, 2014). In other words, the model of Community Governance, observes the linkages between citizens, governments and measuring performance as configured in a triangle (Foley, Martin, 2000). The literature will also cover the issue of the territorial dimension named the Metropolitan Area (Bryson, 2011) that, by its natural and original configuration as a public policy, is “per se” conceived as a form of public value that is generated or destroyed (Esposito, Ricci, 2015). Within the territorial configuration of Metropolitan Areas, policies towards the creation of integrated systems, such as culture systems in this circumstance, will be also explored in order to understand if Performance Measurement represents a tool that is useful to visualize tangible and intangible Public Values or if it is, rather, a “myth” as argued by some authoritative scholars (Mondell, 2004).

**Keywords:** *performance measurement, public value, community governance, integrated culture system*

### INTRODUCTION

The topic of performance measurement (Bovaird, 2003; Holzer and Yang, 2004; Borgonovi, 2008; Bianchi, Williams, 2013) of public value (Benington, 2009: 5,6; Benington and Moore, 2011) for the welfare of citizens is not merely, today, a subject of interest amongst academics of public management. More increasingly, it has become a heated matter for public managers and their organizations’ practitioners since they are daily confronted with problem of delivering efficiently and effectively public actions, policies, goods and services under the rubric of the 21<sup>st</sup> century’s paradigm in the Public Management literature, that is *Community Governance* (Manfredi, 2009, 2013). This

perspective, which unfolds through a series of networks and relationships has sparked off the development of innovative public and private models aimed at integrating all community's views and interests in a *systemic view*. Community Governance, therefore, entails a method of governing that pursues, as its primary aim, sustainable development for communities and territories, and it is supported by coherent processes of community planning and programming by adopting a multidisciplinary, strategic and systemic approach (Totikidis, 2005).

This paper focuses on the topic of Performance Measurement in the realm of Community Governance with the aim to fill the gap in the literature of Public Management and Governance and to provide practitioners with good tools for measuring Public Value.

It is argued, in fact, that there is a major opportunity for governments to achieve effective and efficient results in improving their communities by allowing citizens to use *performance measurement* (Bovaird 2003, Holzer and Yang, 2004; Borgonovi 2008; Bianchi, Williams, 2013) to generate actions towards better public services (Bianchi, 2009, 2012, 2014; Bianchi, Rivenbark, 2014). In other words, the model of Community Governance, observes the linkages between citizens, governments and measuring performance as configured in a triangle (Foley, Martin, 2000).

The literature will also cover the issue of the territorial dimension named the *Metropolitan Area* (Bryson J.M. 2011) that, by its natural and original configuration as a public policy, is "*per se*" conceived as a form of public value that is generated or destroyed (Esposito, Ricci, 2015). Within the territorial configuration of Metropolitan Areas, policies towards the creation of integrated systems, such as culture systems in this circumstance, will be also explored in order to understand if Performance Measurement represents a tool that is useful to visualize tangible and intangible Public Values or if it is, rather, a "myth" as argued by some authoritative scholars (Mondell, 2004).

## RESEARCH DESIGN

The paper analyses *performance measurement* of Public Value in the territorial framework of the Metropolitan Area of Bari. In particular, the focus will be on the applicative problems resulting from the measurement of intangible values generated or destroyed in the cultural integrated system of the Metropolitan Area of Bari.

The paper, in fact, finds that the main difficulties in measuring intangible public value, that would ultimately lead to disvalue of public cultural goods/services, lies in the incapacity of understanding the cultural heritage as made of both tangibles and intangibles.

Given the conditions of a high level of generability of the case study itself, the paper has the ambition to support scholars and practitioners to map all tangible and intangible public value produced or

destroyed, to the extent that a real Public Value's Map (Esposito, Ricci, 2014) could be drafted on the same way as the *Treasure's Map* is conceived.

The Map itself will be able to identify the strategies by avoiding all those problems deriving from performance measurement and transformation of (dis)value into (plus)value (Esposito, Ricci, 2015). This is achieved by measuring the variation and gradation of public value created for the community in the perspective of Community Governance.

The investigation conducted in the perspective of Metropolitan Areas through the case study of the Integrated Culture System of the Strategic Plan "*Metropoli Terra di Bari*" (2007 – 2015).

## RESEARCH METHOD

This paper uses a case-study method (Yin 1989, 1995) which is a valuable tool for understanding the complexities of governing in the perspective of Community Governance and for suggesting criteria for further actions in creating a shared, integrated, networked-based and systemic public value. The case under examination is the one of the Integrated Culture System of the Strategic Plan "*Metropoli Terra di Bari*" (2007 – 2015) and uses a deductive and inductive approach for describing the phenomena and dynamics of the processes entailed.

## RESEARCH OBJECTIVES

The aim of this paper is to find answers to two research questions:

*RQ1: In what way, the tools used for performance measurement, can contribute to the visualisation of Public Value or disvalue?*

*RQ2: How could performance measurement eventually contribute to determine the extent of public value creation or destruction? Alternatively, is Performance Measurement an emerging or declining organizational "myth"?*

The case-study method can help understanding the complexities of measuring public value also characterized by forms of capital rationing that affect both current and future communities.

In general, the case-study method (Yin, 1989, 1995), has a twofold aim of detailing the main characteristics of the phenomena and of understanding the dynamics of a given process. From a methodological point of view, the development of a case study represents a "strategy of research that is concentrated on the comprehension of the dynamics that characterize specific contexts" (Eisenhardt 1989, p. 532). Qualitative approaches and forms of research in action (Fayolle, 2004), allow to describe, explain and understand situations in their own dynamics and their own evolution. The case-study method represents a valuable tool to 'capture' different dimensions of performance measurement of

Public (plus)Value, from the analysis of the case study itself as far as suggesting criteria for further action (Craig 2003).

## MEASURING PUBLIC VALUE: A LITERATURE REVIEW

The theme of public value has been abundantly subject of attention in the academic community. In recent years it has become also known amongst a non-specialist audience, this way becoming part of what can be called as a new 'management frenzy' (Abrahamson, 1991, 1996).

From a theoretical point of view, the research work was inspired by the debate that, according to some authoritative authors, began in 1995 with Moore who was, at that time, dealing with the subject of quality in PA (Jorgensen, Bozeman, 2007: 361). Through further elaborations, clarification and contextualization, it has, then, developed into a model that features the theory of public value as a new paradigm – integrative or even alternative to NPM – that was named Public Value Management (Stoker, 2006; O'Flynn, 2007; Alford and O'Flynn, 2009).

Value is *created* and *destroyed* whenever an individual is called upon to perform any of these activities in relation to a public service (Denhardt and Denhardt, 2003; Kelly, Mulgan and Meurs, 2002). In theory, these actions produce disvalue (Esposito, Ricci, 2015) when the emerging target differs from the one which was originally established and conceived to be reached by the actions themselves. This means that it could be possible to understand whether a certain behaviour - or an omission - by a politician is such as not to create or even destroy value. It is therefore paramount to understand if the good pursued by political action is what essentially originates, motivates and drives political action, that ultimately is, in other words, any action carried out in the community and for the community. In order to better understand the significance of this statement, it seems extremely useful to go back to 2300 years ago by citing the philosopher Aristotle who addressed the question as follows:

*" (...) all knowledge and every pursuit aims at some good, what it is that we say political science aims at and what is the highest of all goods achievable by action. Verbally there is very general agreement: (...) it is happiness"* (Nicomachean Ethics, Book 1).

Happiness should therefore be the good to be pursued through politics. As far as happiness it concerned, it seems to depend on whether and how public value is *created* or *destroyed* after meeting an ever changing *social desirability* (Dahrendorf, 1994: 30).

Scientific literature has shown how public managers are given a much more demanding task, which is to combine purely political issues with those of a more technical nature, in order to ensure the creation or destruction of public value (Hefetz and Warner, 2004).

The approach to public value was born at the beginning of the '90s, independently from NPM studies, and it has gradually become an important part of their development and revision, first by highlighting

and, later, by filling and amending their gaps and inconsistencies respectively. This has led in some cases to significant changes of direction in the process of modernization of public administration compared to originally NPM issues. What has been revisited, in particular, is the notion that policy makers should take into account multiple goals. According to this relatively new approach, the citizen is not seen as a customer, but rather as someone who contributes to shape decisions and public policies that are ultimately taken by managers who operate in the light of transparency and delivery of quality-based public services.

The theory of public value is based on the need to assess public services and to achieve higher levels of efficiency and effectiveness measured by Performance Measurement tools. This would in turn facilitate the establishment of an accountability culture where the public management should be held responsible as much towards citizens as they are towards politicians, overcoming a static approach based on top-down models where public managers try to reach targets set at central level following performance measurement.

It has been argued (Blaug et al., 2006) that the public value model tries to reconcile the tension between bureaucracy and democracy. The assumption at the basis of the public value theory is the acknowledgement of needs and preferences of citizens, who are the recipients of public services, in order to avoid that any decision regarding quantity and quality to be delivered stays only in the hands of politicians, public managers or of private companies.

Public value should therefore be seen as a key factor in designing and implementing political decisions and strategies regarding the services to be provided and should involve the entire decision-making process as far as the final stage when the service is delivered (Lapsley, 1999; Sevic, 2001; Marcon and Russo, 2008).

In the last twenty years the systems to measure performance in complex organizations have abounded and have become part of the current debate amongst scholars and practitioners (Mondell 2004).

Governments, at all levels, have developed performance measurement systems, with particular reference to the use of resources and the quality of services delivered but such measures, mainly economic and financial in nature, have been considered scarcely efficient to support the development of public policies and the definition of actions to respond to citizens' needs. "Whilst many accounting scholars have long taken a rather critical view of the possibilities of improving public sector management through one-sided reliance on financial PM, proposing a more multidimensional approach (e.g., Mayston, 1985; and Pollitt, 1986), more pronounced, normative advocacy of readily 'packaged' solutions to the latter end has only recently surfaced (Chow et al., 1998; Forgione, 1997; Kaplan, 2001; and Kaplan and Norton, 2001). However, the basic idea of tightly coupling performance indicators to strategic objectives inherent in such approaches goes back a good while (Drucker, 1954

and 1976) and has long appealed to public sector reformers (see e.g., Covaleski and Dirsmith, 1981; Dirsmith and Jablonsky, 1979; and Holmblad Brunsson, 2002). Given this longstanding debate, it would seem opportune to investigate how 'new' PM solutions such as those outlined above may become more firmly embedded in organizations at a conceptual level" (Modell, 2004).

## **MEASURING PUBLIC VALUE IN COMMUNITY GOVERNANCE AND INTEGRATED CULTURE SYSTEMS**

Although some scholars claim that 'the public sector provides a leading edge on issues of performance measurement' (Lapsley and Mitchell, 1996, p. 5), critics argue that public sector organizations 'have measured too many things and the wrong things' (Atkinson et al., 1997, p. 26) and need to 'sharpen their focus when identifying the long-term issues of mission, objectives, and strategies' (Chow et al., 1998, p. 278). "This suggests that there are at least two potential bases for challenging the current state of public sector Performance Measurement practices for prospective contestants. They may claim that one-sided reliance on financial and other types of efficiency-based PM has largely failed to improve the provision of public services. Alternatively, the Performance Measurement practices of public sector organizations may be considered too broad and unfocused to provide strategic direction for action. Whilst seemingly inconsistent, these two positions are not mutually exclusive but may co-exist in organizations and generate ambiguity as to how Performance Measurement should be improved. The latter one, which may be described as yet another Performance Measurement myth, implies that there are few alternatives available in terms of 'better' approaches for broadening the assessment of performance within the public sector" (Modell, 2004). The focus of this paper, focuses on the development of the Apulia Integrated Cultural System. A system intended as a "web of relationships" that can connect the local cultural system with actors or other institutional and economic networks of proximity (Valentino et al, 2001). According to some scholars engaged in developing a theoretical framework on Integrated Cultural System, beyond some semantic ambiguity (Seddio, 2013), the economic and business literature identifies the integrated cultural system as a systemic complex and culturally shared landscape.

In this paper, the cultural heritage will be investigated not as a set of cultural assets to be protected and maintained (Riccaboni, Magliacani, 1984); but rather as a set of organizational and governance solutions, to govern the growing strategic complexity (Rebora, Meneguzzo, 1990; Cavenago, 2000; Ruffini, 2000; Borgonovi, 2001; Longo et al, 2005). This heritage is represented, therefore, as a complex system, culturally homogeneous with social and economic implications in the reference area, by the different stakeholders involved in the economic activities (Airoidi, Brunetti, Coda, 1994: 129; Airoidi,

Forestieri, 1998; Valotti, 2000: 51), capable of promoting and supporting the processes of generation of utilities that are to influence public interests (Kooimen, 2003; Longo et al 2005: 17).

The theoretical framework that is emerging from the basis of the analysed literature, could also be useful to investigate the possible different trends in the application of studies on cultural systems integrated in different countries.

In Italy, the garrison of corporate economic literature on the subject of integrated cultural systems, is guaranteed by various scholars (Sibilio Parri, 2004; Marcon, 2004; Seddio, 2002, 2013; Zangrandi, 2007; Zan, 2007; Hinna, 2009; Donato, 2010; Manfredi, 2010, 2013; Del Sordo, Orelli, 2012; Magnani 2014), and by a substantial and growing ranks of professionals.

## **THE MODEL OF COMMUNITY GOVERNANCE APPLIED TO BARI METROPOLITAN AREA**

The Metropolitan Area of Bari is located in a crucial border, at the edge of the European Union, as a gateway to the Balkans and with close ties with the Southern coast of the Mediterranean Sea.

This area, which should not be considered as the periphery of the Apulian region has made use of the Strategic Plan BA2007 – 2015 to activate processes and resources enabling the creation of a Metropolis as a centre of cultural production.

The Metropolitan Area of Bari attempted to implement a strategy to prevent that culture became everything. Thus, very specific actions in the field of arts, heritage and knowledge had been clearly identified and implemented following European trends which place culture in a pivotal position as being used in urban development strategies and cultural agents as provider of contents for a creative economy.

The scope of the Strategic Plan of the Metropoli Terra di Bari, as far as the field of culture and heritage is concerned, was merely centred on the development of a homogenous plan of cultural and tourist strategies at the Metropolitan Area's level in order to create an univocal and attractive tourist and cultural offer of the reference area. The drafting of a local cultural strategy depended, to a great extent, on the state of the art and the level of development of each single municipality compounding the Metropolitan Area. The idea of the Plan was to focus on the field of culture and tourism in order to prove their usefulness and their contribution to the creation of an economic and financial opportunities for the community of the Metropolitan area such as employment and urban regeneration. A strong emphasis was made in the economic dimension of culture that would have helped in providing new jobs and new income to the local economy of the Area.

The strategic Plan was merely used as a tool that would have offered the Metropolitan Area a renewed image that, at turn, would have contributed to increase local community identity and

historical awareness through the creation of cultural and creative industries. The activity of strategic planning in the sector of culture was mainly focused on the creation of a portrait of the city as a City of Knowledge and Creativity. The main goal was to fill the Plan with a set of events emphasising processes of cultural production, diversity, interculturalism and intercultural dialogue by making the most of the existing traditional cultures of the Area.

Cultural actions were those actions aimed at creating a respectful tourist offer, based on the cultural assets of the territory, contributes to the economic growth of the Metropolitan Area, without damaging the social fabric so that rural spaces as well as urban ones were all used at best, as a single common and shared heritage, to connect the Municipalities of the Area altogether. And this is what was meant as an integrated cultural system where the main idea was to link intangible cultural capital to the territory and the community and to present the system created as an attracted offer to sell on the market.

Therefore, it could be argued that the scope of the Plan regarding culture, heritage and tourism did not contemplate the establishment of a set of indicators that would have afterwards measured the result of the impact of those strategies on the territory and on the communities of the Metropolitan Area. No assessment of performance indicators can be actually conducted, today, at level of the integrated culture system that the Plan attempted to create, simply efforts of creating a strategic, synergic and concerted vision on culture were not driven by the spirit of measuring the cultural intangible value generated or destroyed.

## **PERFORMANCE MEASUREMENT IN INTEGRATED CULTURE SYSTEMS: A “TREASURE’S MAP” FOR PUBLIC (PLUS) VALUE?**

An interesting case of community planning is found in the adoption of the Community Governance’s model applied to the Strategic Plan of the Bari Metropolitan Area (or PSMTB).

The PSMTB needs to be conceived as political willingness, and ultimately a decision, to converge into a single institutional authority. The analysis of documents related to performance measurement of the Metropolitan Area of Bari has occurred through two steps:

- a) direct collection of data;
- b) collection of documents and indirect resources resulting from public engagement activities.

From the analysis of the documents above, it has been possible to observe that the tools of Public Measurement cannot highlight, in a clear and measurable manner, the value that is generated or destroyed. This can be explained in the lack of robust, measurable and valid strategic objectives that the Public Administration has established ex-ante.



The paper, in fact, finds that the main difficulties in measuring intangible public value, that would ultimately lead to disvalue of public cultural goods/services, lies in the incapacity of understanding the cultural heritage as made of both tangibles and intangibles (*RQ1*).

Given the conditions of high level of generability of the case study itself, the paper has the ambition to support scholars and practitioners to map all public value produced, tangible and intangible, to the extent that a real Public Value's Map (Esposito P., Ricci P., 2014) is drafted on the same way as the Treasure's Map is conceived.

The paper fills the gap in the examined area of public value that is the measurement of gradation/variation of public value. The investigation conducted in the perspective of Metropolitan Areas through the case study of the Integrated Culture System of the Strategic Plan "Metropoli Terra di Bari" (2007 – 2015) represents an instrument itself by the means of the Treasure's Map that it created.

From the analysis of the case-study it is possible to observe that the performance measurement tools adopted by the Metropolitan area of Bari in the cultural integrated system seems to be a missed opportunity. The tools abovementioned are not part of the Treasure's Map since they don't enable the assessment of the value's transformation as far as the intangibles are concerned. Consequently, they are also unable to allow the visualisation of the plus value may be generated or destroyed.

From the observation of the performance measurement conducted by the Metropolitan Area of Bari, it comes that (*RQ2*) is confirmed since, in this case study, performance measurement tools in the public sector stand as only a "*myth*" (Mondell, 2004).

Any European metropolitan area, strategically planning its future, needs to formulate a strong cultural vision. In other words: There is no future for a metropolis that does not give culture a central role in the exercise of strategic planning and confirms with adequate funding and suitable processes the expansion of the cultural resources during the implementation of the plan. The inclusion of culture in the Strategic Plan Metropoli Terra di Bari took into account three main strategies guiding the future of the Metropolis: a polycentric, competitive and attractive and efficient governance.

The case study of the Metropolitan Area of Bari shows a lack of culture and cultural heritage's indicators that demonstrates the institutional incapacity of measuring intangibles and the government's aim to monitor trends in the contribution of cultural heritage to the Metropoli Terra di Bari's society and economy. No indicator has been set as it is shown in the document on "Performance Assessment of the City of Bari – Pianificazione e Controllo Strategico nelle grandi Città" conducted and presented by the Italian Ministry of Funzione Pubblica in 2013.

Therefore in this context it is not possible to measure the value or disvalue, rather, the plusvalue generated by cultural assets and their impact on cultural heritage on individual and community well-

being. Specifically, it is not possible to discern any correlations between participation in arts and cultural heritage activities, individual well-being and social capital in communities in the Metropolitan area of Bari. What is important is the use of intangible and performance outcomes that are being used to assess investment in cultural heritage and determine future public policy. This links the value that the public cultural places experience with the Public Value that public authorities seek to create through investment and policy. And arts and cultural heritage are the conduits for that value creation. And all this, is completely inexistent in the study case under examination.

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## PUBLIC-PRIVATE ALLIANCES IN OPEN INNOVATION PROJECTS: THE GOVERNANCE OF ALLIANCES IN SMART CITIES

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### ABSTRACT

This paper aims at deeply understanding the governance mechanisms of alliances between public and private in a new and increasingly important contest of analysis: the Smart Cities. To do this, 21 in-depth semi-structured interviews with both Innovation and Smart City managers from seven large multinational corporations participating in Smart City initiatives were carried out. Results propose significant new insights useful to manage these hybrid partnerships that involve the development of uncertain technologies, services or business models with the final aim at satisfying citizens needs. Implications both for private managers and for public bodies and cities' policy making were presented in the light of the existent literature.

**Keywords:** *Public-Private alliances; Public-Private Partnership; PPP; open innovation; governance mechanisms; alliance governance; smart cities; smart city alliances; smart city governance.*

### INTRODUCTION

Open innovation partnerships help firms to access and leverage external complementary resources, reduce innovation costs and risks, adapt to dynamic environments and generate higher revenues (Chesbrough, 2003; Du *et al.*, 2014). Despite this, in OI literature only very few studies try to analyze open innovation through community forms of collaborations such as private-public partnerships (West *et al.*, 2014). This type of cooperation can provide firms with access to complementary resources to enable the successful development of new products and processes (Laursen and Salter, 2014; Santoro *et al.*, 2014). Thus, most of this research has focused on knowledge partnerships between firms. Both the literature on Open Innovation and the older research on R&D cooperation have traditionally neglected the R&D cooperation between firms and public organizations.

In this context, literature on public-private partnerships suggested different problems and obstacles that may lead to the failure of this hybrid cooperation due mainly to the diversity of the actors that

prevents them from collaborate with ease. First, an efficient knowledge sharing process implies that the scientific or technological distance between partners may not be too large (Röller *et al.*, 1997; Inkpen and Beamish, 1997). Second, the management of the intellectual property rights (IPR) and sharing proprietary know-how is often problematic (Hagedoorn *et al.*, 2000). Third, objectives are usually very different because the public body focused on social and collective benefits while firms involved in this projects usually aim at making profit. Fourth, the coordination of different time-horizons because private managers often complain that public institutions operate on extended time lines and have little regard to the urgent deadline of business (Pavit, 2003; Du *et al.*, 2014).

Due to compounded difficulties coming from the heterogeneity of partners, higher rate of cooperation failure and the unexplored contest we designed our study, the main goal of this paper is to understand how firms engaging in Smart City alliances design the governance of alliance. The differences in managing these forms of alliances compared with the classical private forms is an important research gap that this paper filled up. Another important contribution is the new and emerging topic, referring to "Smart City", in which we analyze this topic. In fact, this is one of the first study aim at highlighting which are the mechanisms to manage the governance of alliances within this hybrid partnerships.

Thus, this paper aims at contributing mainly from three different points: first, it look for the most suitable alliance governance mechanisms in the Smart City context; second, it look for challenges and best practices adopted by firms in order to partner with public organizations in Smart Cities projects; third, it look for suggestions for firms that need to partner with public organizations in order to exploit Smart City's opportunities.

This article is structured as follows: in section 2 we present the theoretical background of the paper, firstly explaining how public-private alliances are different in Smart Cities projects and subsequently proposing previous studies on the alliance governance, that is the focus of the paper. In section 3, we proposed our multiple case studies regarding seven multinational companies that started partnerships with municipalities in many cities of the world. In section 4, we present the results of the paper regarding the governance of alliances and some key driver that managers need to follow in order to achieve positive results in Smart City projects.

## **THEORETICAL BACKGROUND**

### *Partner with public organizations in Smart Cities*

Nowadays, an increasing number of public organizations are participating in Open Innovation strategies (Alves, 2013). In the last years, open innovation approaches are gaining popularity across all levels of government (Mergel and Desouza, 2013). Most approaches can be defined as experimental

lighthouse projects, and each case is situated in its own political and legal environment, with a diverse set of unique public management problems (Mergel and Desouza, 2013). Some of the Open Innovation adoption in public organizations is explained by the growing interest of policymakers for smart cities programs. Within the scope smart cities programs, firms and public organizations tend to cooperate to develop innovations, which usually are more radical than incremental because most Smart City projects involve cutting edge technologies and highly uncertain outcomes (Almirall *et al.*, 2014). Thus, public partners are less prepared to manage this kind of knowledge exchanges and this uncertainty. But, cities may be a great locus of smart innovation and successful experiments need the cooperation and support of local governments. As noted above, earlier research on decision making in public organizations suggests that public managers may be unwilling to make decisions without the consent of legislative and political superiors and powerful stakeholders (Rufin and Rivera-Santos, 2012). Therefore, public managers rarely support experiments and innovations which may harm political strategies of decision makers or the interests of significant stakeholders. Over the last decades, a large number of articles have studied how to build and develop alliance capabilities. Most of this research has focused on dyadic relationships between firms or public-private partnerships for the delivery of well-known services with mature technology and clear business models. However, Smart City projects typically involve alliance portfolios involving several partners, both public and private, which develop uncertain technologies, services or business models. Therefore, alliances in Smart City initiatives have some specific and underexplored aspects (Ferraris and Santoro, 2014).

The study of the smart city phenomenon from the Public Administrative literature shows that most of the smart city projects may fall within the concept of Public Private Partnership (PPP). According to Van Ham and Koppenjan (2001) a PPP is "cooperation of some sort of durability between public and private actors in which they jointly develop products and services and share risks, costs, and resources which are connected with these products".

Drawing on transaction cost economics and externalities theory, public-private partnerships will be necessary when economic opportunity realization (1) calls for industry-specific competencies but entails significant positive externalities (i.e., implies specialized private actions with significant public benefits), (2) is shrouded by high uncertainty for the private actors, and (3) necessitates for private actors high governance costs for contracting, coordinating, and enforcing (Rangan *et al.*, 2006). More specifically, alliances in Smart City may fall under the scope of constructive partnership in the sense of Rangan *et al.* (2006), an alliance between private and public actors where both uncertain and governance costs for private firms are high, that enable creative and effective responses to tackle the economic and social crisis.



Since most of the PPP are related to goods and services linked to public infrastructures, innovation has been limited to incremental improvements of existing technology (Hodge and Greve, 2007). Furthermore, current PPP instruments do not seem to be very well suited for the development of cutting edge technologies (Stiglitz and Wallsten, 1999; Bloomfield *et al.*, 1998; Leiringier, 2006; Barlow and Koberle-Gaiser, 2008). In fact, PPP legal framework is not friendly to open innovation strategies since most of the rules and regulations of PPP are based on the traditional mode of contracting that requires that public organizations to know the solution they need in advance and to work with prescreened vendors in order to define an auction.

#### *The governance of alliance in Smart Cities*

Former literature suggests that the three main mechanisms of alliance governance are equity ownership, contractual provisions and relational governance (Kale and Singh, 2009). Equity governance may be useful when partners have concerns over the retention of intellectual property (IP) outcomes. Some firms are wary of sharing their IP with public partners, since the knowledge exchanged with them may flow to competitors that have other partnerships with the public organization (Molas-Gallart and Tang, 2006). Moreover, public partners often incur high transaction costs in the creation and termination of these joint ventures and, as the number of actors involved rises, governance costs can be expected to rise as well. (Rangan *et al.*, 2006). Consequently, they will tend to enter into a reduced number of partnerships with this governance mechanism.

In fact, research on public-private partnerships implies that public partners will be reluctant to create public-private joint ventures because of legal constraints and the reticence of public organizations towards profit making activities (Rufin and Rivera-Santos, 2012). When there are uncertainty regarding market conditions facing the relationships, mainstream literature highlighted how the creation of an equity-based alliance may be an important option for firms (Kale and Singh, 2009). This implies that one partner takes an equity stake in the other, or both partners create a new, independent venture wherein both take a stake. The main advantages of this governance choice may be at least three: a) it allows to address better the contingencies between partners and, at the same time, the hierarchical supervision and the monitor of the day-to-day activities of the alliance becomes easier; b) it creates incentives for the cooperation between partners and it creates a basis for each partner to receive a share of the returns from the alliance in proportion to its level of ownership; c) it improves partner shared goals, aligning mutual interests, improving the commitment of partners and, at the same time, reducing opportunistic behaviors (Molas-Gallart and Tang, 2006).

Contractual provisions are more flexible than joint ventures and at the same time they may help managing exchange uncertainty in a variety of ways. Contracts limit information disclosure by partners, specify the distribution of the alliance's outcomes and set forth mutual rights and obligations

of private and public partners. Contracts also limit information disclosures by partners during the operation of the alliance, specify how each partner will interact with third parties, and outline ways in which the alliance will end (Kale and Singh, 2009). However, public-private contracts are highly bureaucratic and are based on traditional modes of public procurement that are a strong barrier to innovation (Edler and Georghiou, 2007; Mergel and Desouza, 2013).

In PPP these costs are normally higher compared to traditional procurement of public investment projects (Hodge and Greve, 2007). The main reasons are their long-term character, ownership and financing structures, and risk-sharing features (Van Ham and Koppenjan, 2001), because it is more difficult to write complete contingent claims contracts.

Finally, relational governance reduce transaction costs relying on goodwill, trust, and reputation. This self enforcing governance directly influences contracting, monitoring and adaptation costs. In addition, relational governance enables partners to work together in implementing value-creation initiatives that need sharing of tacit knowledge between partners, exchanging resources that are difficult to price, and offering responses that are not explicitly called for in the contract (Zajac and Olsen, 1993; Kale and Singh, 2009).

Relational governance mechanisms is based upon social processes that promote norms of flexibility, solidarity and information exchange. Moreover, relational approach may safeguard against exchange hazards and facilitate the enforcement of obligations (Kivleniece and Quelin, 2012). Thus, it emphasizes the role of trust in achieving mutually successful supply outcomes through a variety of enforcement mechanisms ranging from the expectation of repeat business, reputation effects, social obligations, and fulfillment of basic social needs (Zhou and Poppo, 2006).

However, it is to be highlighted that a significant risk associated with opportunism exists in PPPs for both partners. Following a TCE reasoning, the governance structure of the PPP will need to be designed by the partners in ways that mitigate this risk (Rufin and Rivera-Santos, 2012).

## THE STUDY DESIGN

The "Smart City" context is still emerging and the work of defining and conceptualizing it is in progress. Despite these difficulties in defining this fuzzy concept, our research design focus on the evidence that firms need to operate and collaborate with city governments in order to exploit Smart City opportunities (Scuotto et al., 2016).

This study uses a multiple-case research design and follow an exploratory and qualitative methodology. A case-study methodology enables the researcher to maintain the complexities and contextual contingencies in which the firms and the phenomena under study are embedded (Yin, 2013). We consider this methodology an appropriate approach to our goals, as there is limited

theoretical knowledge of partner selection in Smart Cities. We have studied the strategies of large corporations with a clear Open Innovation Strategy in partnership with public actors in cities (Scuotto et al., 2016).

Company	Gross Revenue 2013 (\$ billion)	Industry	Relevant Examples of Partnerships	
IBM	99.8	Software and IT Services	Rio de Janeiro (Brazil)	Rio operations centre control room
			Qatar (Qatar)	Smart roads and drainage infrastructure
			Madrid (Spain)	Big Data analytics on public service monitoring
			Boston (U.S.)	Big Data analytics on video surveillance data
			Mons (Belgium) and Malaga (Spain)	Electrical and thermal energy control system
			Milan (Italy)	Subway control room
Indra	3.7	Software and IT Services	Medellín (Colombia)	Integrated Mobility Management Technology Platform
			La Coruna (Spain)	Integrated Smart City Government Platform
			Malaga (Spain)	Geo monitoring of social network activity in the city
Siemens	95	Manufacturing	London (U.K), Vienna (Austria), Paris (France) , Berlin (Germany)	Smart transportation systems
			Manchester (U.K)	Intelligent energy management
			Shanghai (China)	Intelligent buildings
Ferrovial	10.3	Building and Services	Sheffield, Birmingham (U.K)	Smart transportation
			Santander (Spain)	Waste management and parking systems
			Torrejon (Spain)	Intelligent street lighting
BBVA	26.8	Banking	Madrid and Bilbao (Spain)	Big data analytics on tourism data
Telecom Italia	29.3	Telecommunications	Trento (Italy)	Big data analytics on mobile services use
			Milan (Italy)	Expo Milano Control Room
			Turin (Italy)	Water management systems
ENEL	100.9	Utilities	Genoa (Italy) and Barcelona (Spain)	Smart Grids
			Malaga (Spain)	Renewable energies and smart metering
			Santiago (Chile)	Energy management systems

Table 1. *Summary of the case studies*

The scope of this research project was to study both service and technological innovation in urban environments. Consequently, firms participating in the research project were four technology providers (IBM, Siemens, Indra and Telecom Italia) and three service providers (Ferrovial, Enel and BBVA). The projects discussed during the interviews were located around the world (See Table 1). We used multiple data sources. First, we collected and analyzed extensive secondary materials. Second, we conducted 21 in-depth interviews lasted from 1 to 2 hours with both Innovation and Smart City Innovation, Entrepreneurship and Digital Ecosystems

managers from seven large multinational corporations participating in Smart City initiatives on the different aspects of the project and their OI strategy. Smart City managers are firms' project managers that coordinate Smart City projects with external partners. Each city manager is assigned a specific city with the goal of building trust with decision makers and learning the specific processes and problems of the city. Additionally, city managers also evaluate how difficult the mutual adaptation is between different stakeholder interests and priorities and firm's resources and strategies. The managers were questioned on the alliances in Smart City with a focus on the governance mechanisms used for explorative and exploitative alliances.

## FINDINGS

Despite legal constraints and the reticence of public organizations towards profit making activities our analysis showed that some private partners supported the adoption of equity governance mechanisms in Smart Cities initiatives. Equity governance may be useful when partners have concerns over the retention of intellectual property (IP) outcomes. In Smart City alliances, some firms are wary of sharing their IP with public partners, since this knowledge may flow to competitors that have other partnerships or relationships with the public partner. In addition to IP concerns, firms may use this mechanism aiming at implementing a lock-in strategy in a particular city, this is the case of Siemens in Wien with local energy suppliers and public partners.

However, contractual provisions are the governance mechanism most often adopted in Smart City alliances, since they are more flexible than joint ventures and at the same time they may help managing exchange uncertainty in a variety of ways. Public procurement contracts often make it challenging for public partners to work with and attract private partners for small projects where transaction costs and bureaucratic efforts may overwhelm the expected profits. Public procurement procedures are one of the major challenges in the implementation of Smart City projects. Some city governments, such as Sheffield and Birmingham city governments in UK and Rio de Janeiro in Brazil, have tried to adapt their contractual relationships to the specificities of Smart City projects, by promoting more flexible contracts or longer term relationships.

The effectiveness and costs of contracts in public-private alliances depend on managing coordination and developing trust between partners. However, not all the traditional coordination mechanisms may be feasible in Smart City projects. For instance, a traditional coordination mechanism such as programming may be difficult to implement due to the uncertainty linked to the nature of experimentation of Smart City projects.

In our interviews, it often emerges the presence of a formal structure aiming at facilitating the interaction between partners and information and resource sharing. Sometime public partners create a

specific organizational units or institutions to play this role like MONUM in Boston, Public Management Office (PMO) in Rio or Trento Rise in Trento. Other times, public actors do not have the resources or the possibility to do this and these units are created by the private partners such as Indra in the city of La Coruna in Spain. These coordination units are not only designed to interact with external partners, but most importantly to fostering internal cross-functional collaboration and to eliminating organizational and technological silos in the cities' organization.

Finally, some mechanism referring to "relational governance" has been individuated mainly in to exploiting stages of technology and service development where partners engage into Smart City alliances with reciprocal interdependence and generally need more complex coordination mechanisms such as joint teams and co-location. Here, trust based mechanism need time to be built but have the advantage of reducing the burden of administrative controls and facilitating knowledge creation and exchange. Moreover, joint teams and co-location centers favor the creation of social bonds and the reciprocal understanding of partners' organizational cultures and working styles, thereby increasing partner compatibility. Overall, firms in our research consider that these bonds reduce the need for formal control by facilitating information sharing, by reducing the perceived risk of opportunistic behavior and by promoting mutual adaptation to evolving contingencies.

## **DISCUSSION AND CONCLUSION**

Building on the literature on open innovation in public organization in this paper we have discussed how firms can address alliances with public partners in cities to increase the success of their projects by focusing on one of the main dimensions of alliance management: alliance governance.

From our findings, despite there are some evidences in favor of the adoption of equity governance mechanisms, in Smart Cities initiatives mainly because of IP concerns and for a city's lock-in strategy most of the alliances in our research prefer contractual provisions.

In fact, contractual provisions are more flexible than joint ventures and at the same time they may help managing exchange uncertainty in a variety of ways. Although public procurement procedures are one of the major challenges in the implementation of Smart City projects, some city governments have tried to adapt their contractual relationships to the specificities of Smart City projects, by promoting more flexible contracts or longer term relationships. This in order to manage and develop high level of trust between partners that improve the effectiveness of contracts and reduce transaction costs.

Moreover, a formal independent structures like MONUM in Boston, Public Management Office (PMO) in Rio or Trento Rise in Trento facilitate: a) the interaction between partners, b) the information

and resource sharing, c) internal cross-functional collaboration and, d) the elimination of organizational and technological silos in the cities' organization.

Finally, some mechanism referring to "relational governance" has been individuated in order to reduce the burden of administrative controls and facilitate knowledge creation and exchange mainly in to exploiting stages of technology and service development. Moreover, our results suggests how joint teams and co-location centers favor the creation of social bonds reducing the need for formal control: a) by facilitating information sharing, b) by reducing the perceived risk of opportunistic behavior and, c) by promoting mutual adaptation to evolving contingencies.

From the perspective of public bodies, cities need to manage a trade-off between the flexible contractual relationships and the long term relationships. Public managers need to design new form of flexible contracts and procedures if public organizations want to become more attractive for firms that start Smart Cities projects. Moreover, cities must be aware of the problems related to IPR management and find mechanisms and incentives to the firms in order to create win-win situations related to knowledge spillovers, otherwise the local economical impact of Smart City projects may be limited. Thus, this paper adds to the existing literature mainly on three aspects: first, it improves general knowledge on the adoption and effectiveness of some alliance governance mechanisms in a new context of analysis; b) it finds out the main challenges that private and public managers face in this kind of projects and it highlight some best practices; third, it proposes some key insights for open innovation and alliance literature in the Smart City context.

From the perspective of private managers, this paper has some implications: a) it helps them to understand the challenges in innovating with public partners in Smart Cities; b) it proposes key insights on the choice of the right governance of alliance with public partners; c) it gives real examples on the adoption of alliance governance mechanisms in a specific context (i.e. the Smart City), where new technologies and business models need to be tested and adapted to the city and to the citizens.

This research has some limitations. First, even if the internal validity of the empirical results is ensured by the cross-case explanation building and pattern matching analyses, the study does not explicitly take into account the effects of other parts of the innovation ecosystem, such as the influence of citizens and other stakeholders or national and supranational institutions in Smart City projects. Second, our sample has some bias since our firms are large multinational and technology intensive corporations. The choice of the government mechanisms may be different for smaller, more local and less technological firms. An interesting avenue for future research is a large-scale survey to statistically test the relationships that emerged from this study, including more heterogeneous firms. Moreover, through our research, we hope to inspire additional managerial accounts as well as further scholarly study in this exciting domain. Nowadays, in some cities, open innovation projects typically

include failures due to: a) private actors' incapacity of managing alliance or developing Smart City alliances routines; and b) the choice of the right governance mechanisms in order to manage the alliances. Therefore, we encourage successful examples to be documented, involving both new firms' or municipalities' experiences of managing alliances with heterogeneous partners.

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## A MODEL FOR VERIFYING THE CORRELATION BETWEEN THE COMPANY'S SIZE AND ITS PERFORMANCE

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### ABSTRACT

The purpose of the research is to verify if the company's size (in terms of production value) could be considered as a relevant factor in impacting their performance. To reach this purpose, the Italian and German companies have been compared.

Thanks to an empirical evidence in a sample composed of 41,344 Italian companies and 12,219 German companies, operating in different sectors, the correlations among several variables (country, production value cluster, and financial indicators) shows that the country factor has a primary importance in determining the differences of performance between German and Italian companies. On the contrary, the company performance and company's size are poorly correlated, meaning that the size factor is not one of the main factors that explains why the performance of the German companies is better than Italian ones.

The research is characterized by series of both theoretical and practical implications, especially for the management and the investors.

**Keywords:** *company's size; company's performance; economic and financial performance; company's profitability; financial debt repayment; Italian companies; German companies.*

### INTRODUCTION

The comparison between performance of the companies in different countries constituted a subject of numerous publications, despite the fact that international comparisons are not easy issue because of significant economic, social and cultural differences between the individual countries (Arrighetti and Ninni, 2012; Arrighetti, A. et al., 2012; Boffelli and Urga, 2015; Borio, 1990; Bozio et al., 2015; Corbett and Jenkinson, 1996; Falzoni and Grasseni, 2012; Florio et al., 1998; Guerrieri and Esposito, 2012; Hall and Oriani, 2004; Ivanov, 2009). Moreover, the results obtained are not always convergent, as they depend on both the database and variables used to evaluate different sizes of the companies (Rivaud-Danset et al., 2001).

The literature is focused on the opportunity to present a certain number of interdependent factors concerning the company's situation (Arcari, 2004; Campedelli, 1998; Ferrero, 1968 and 1987; Ferrero et al., 2006; Giacosa, 2011; Giacosa, 2015; Teodori, 2008). Our research is focused on the observation context mentioned above.

The purpose is to verify if the company's size (in terms of production value) could be considered as a relevant factor in impacting their performance. In particular, a correlation between the company's size and its performance has been investigated, comparing Italy and Germany companies.

To that end, framework of the present research (Giacosa and Mazzoleni, 2016) is defined by the model that has distinguished small and medium-sized enterprises into various typologies, on the basis of the following criteria: growth, profitability and their attitude to repayment of the financial debt, in the context of an informative matrix (a model mentioned above was introduced in a previous publication. Additionally, it can be considered that the present research represents a development of Giacosa et al., (2016), which identified a set of indicators which identifies the appropriate financing methods for small and medium-sized companies, in terms of growth, profitability, and capacity of financial debt's repayment. Our current research refers to the above indicators to reach a different purpose.

The research is composed of the following parts. The second paragraph represents the literature used for the purpose of the current research. In the third part the research methods were introduced. The fourth paragraph contains the description of the results obtained and their discussion in the next section. And at the end the conclusions and implications of the survey are outlined, along with its limitations.

## LITERATURE

Researchers focused on a range of variables that permits a comparison between the company's situation, in several terms of observation, within a country or comparing several countries. With particular reference to the international comparisons, the comparison between the performance of the different countries was the subject of numerous publications.

Considering the aims of the present research we have focused on the relationships between the company's performance, the country system and the company's size. Some of the research lines of studies divide literature in the following groups:

- a) the relationships between the companies' business situation and trend of their growth;
- b) the existing relationships between profitability, company's size and the country system.

With reference to the first group of studies, exists many different ways of observing the condition of the company: it can be considered by taking into account the growth aspect (Canals, 2001; Hart and

Mellons, 1970; Giacosa, 2012a and 2012b; Goold, 1999; Grandinetti and Nassimbeni, 2007; Potito, 2013) as well as referring to economic and financial context (Baginski and Hassel, 2004; Giunta, 2007; Rossi, 2014b; Vause, 2001).

Instruments of financial analysis were very useful tool in evaluating the company's economic and financial situation, because its signaling ability (Bernstein and Wild, 1998; Foster, 1998; Fridson, 1995; Ingram et al., 2002; Helfert, 1997; Higgins, 2007).

By focusing our attention on the companies' financial structure (which permits, among other, to monitor the company's situation), a number of studies has linked the companies' financial structure with the company's growth trend (Borio, 1990; Bloch and Laudy, 1993; Corbett and Jenkinson, 1996; Delbreil et al, 2000; Harris and Raviv 1990; Rivaud-Danset et al., 2001).

In opinion of Giacosa (2015), the growth is an important factor in determining the financial structure of the company, as the financial resources useful to support every subsequent strategy depend on the growth. Among the choices in the context of the financial structure, we can find a degree of indebtedness. It must be analyzed jointly with the company's ability to generate cash flows. Indeed, a certain level of debt is acceptable if the resources externally acquired generate a positive leverage effect (Ferrero et al., 2003 and 2006).

With a particular reference to the existing relationship between the growth and the company's size (Kumar, 1999; Yasuda, 2005; Vlachvei and Notta, 2008), some suggestions are so interesting. Oliviera and Fortunato (2006) stated that newly established companies and the small ones have more substantial growth than the big and mature companies. This statements are in contrast with the theory of Gibrat (1931), according to which the company's growth and size constitute two independent factors.

With reference to the second group studies, a number of studies has used a different methodologies and samples, to compare this aspect of observation.

Rivaud-dansent et al. (2001) showed that the differences in profitability between companies from different countries are mainly influenced by the company's size factor, and a little by the country factor. Schiefer and Hartmann (2009) attributed to the country factor only a residual role in the explanation of the difference between the profitability of different countries.

With reference to the relationship between profitability and leverage, the results of studies conducted by different authors are homogeneous. They claimed that, with increasing profitability, the debt of the company decreases (Remolona, 1990; Rajan and Zingalez, 1995; Shyam-Sunder and Myers, 1999), as the company produces by itself a series of financial resources useful to support the needs of management.

According to the literature presented above, we can conclude that doesn't exist a model which would be able to assess the evolution in time of the state of health of the small and medium-sized companies in the period considered, in the context of combination the following criteria: growth, profitability, and the company's ability to repay financial debt. Moreover, the developed model could permit a companies to adopt a various measures necessary to improve their situation, by defining the current state and following the path leading to virtuous position in terms of economic-financial situation and the companies' growth.

## METHODOLOGY

### The sample

The purpose of the research is to verify if the company's size could be considered a relevant factor in impacting their performance. In particular, we compared Italian and German companies.

The Amadeus-Bureau van Dijk database was the basis for our analysis, as it allowed to identify the Italian and German companies on which the survey was conducted. Subsequently, the companies have been matched to proper economic sector, adopting the NACE classification of the European Institute of Statistics (Eurostat).

Carrying out the survey requires an identification of two samples: Italian companies sample, and German companies sample. According to the sample of Italian companies, the population taken into consideration consists of 758,153 companies, while the sample of German companies counts 201,854 companies (presented in Amadeus database on the analysis reference day).

Creation of the samples demanded application of the following criteria:

- availability of the company's financial statements related to 2011, 2012 and 2013 (this three-year period was considered as minimum necessary to conduct the survey);
- preparation of the financial statements was not made in accordance with IAS (International Accounting Standards), in order to ensure the cohesion of the data analysed;
- belonging to economic activities of NACE, considered as relevant (the companies belonging to its residual economic activities have been excluded);
- achievement of the production value in 2013 between 5 and 250 million euro (in present analysis "*production value*" instead of "*sales*" was used to extend it about the working on order companies);

- presence of the detailed “Total debt” position in the financial statements (the companies which have not fulfilled this condition were excluded from the survey).

Manufacture sector consisting of 23 different activities has been further divided in the following categories: food, automotive, pharmaceutical, rubber-plastic, machinery, metal-mechanic, petrochemical, textile and other manufacturing.

The final sample is composed of 41,344 Italian companies and 12,219 German companies, operating in different sectors.

The method

In order to achieve the aim of this research, the following research question has been formulated:

*RQ: Does exist a correlation between the company's size and its performance, comparing Italy and Germany?*

The research methodology has been developed by the following steps.

#### **A) Classification of the companies by production values cluster**

The company's size of Italian and German companies have been classified in relation to production value in five classes:

- 200 and 250 million euro;
- 100 and 200 million euro;
- 50 and 100 million euro;
- 10 and 50 million euro;
- 5 and 10 million euro.

Once the companies have been placed in the correct production value cluster, for each cluster we calculated:

- the average amount of production value, Ebitda and financial debt recorded during the three year-period considered;
- the average amount of production value, Ebitda and financial debt of a company belonging to that production value cluster.

## B) Identification of some relevant indicators for the survey

For this purpose, our framework is represented by a model developed in a previous publication (Giacosa and Mazzoleni, 2016), which identified some relevant indicators for evaluating small and medium-sized companies performance.

The relevant indicators have been classified into the following categories – despite they have been considered in a system way (Coda, 1990; Ferrero et al., 2006; Teodori, 2000): company's growth; company's profitability; and company's ability of financial debt repayment.

The company's growth was measured using the CAGR indicator (*Compound Annual Growth Rate*), which represents the annual average production value in three-year period (2011-2013). Indicator was calculated using the formula illustrated below.

$$CAGR = \sqrt[n]{\frac{PV_m}{PV_n}} - 1$$

where:

$PV_n$ ,  $PV_m$  = Production value developed by a company respectively in years "n" and "m", with  $m > n$ .

CAGR indicator permits to neutralize the volatility of growth rates' effects, calculated on individual years, avoiding an arithmetic average which is less meaningful.

The criteria used to define relevant parameters necessary to valuate economic and financial situation of the company are as follows:

- high correlation between the company's situation and each indicator;
- correlation between identified indicators.

It emerged that some indicators (EBITDA/PV and Financial Debts/EBITDA) reflect both: the significant correlation between the company's situation and the indicators themselves (respectively - 0.3245 and -0.0874) as well as a lower correlation between two identified indicators (-0.0094). Finally, the following indicators have been used:

- referring to profitability: relation EBITDA to Production Value which reflects the capacity of generating cash flow by the company:

*Profitability in the year "n" = Ebitda (n)/Production value (n)*

- referring to ability of financial debt's repayment: the relation between Financial Debt and EBITDA enables the estimation of time necessary to repay debts using the sources deriving from the core business activity:

*Ability to repay the financial debt in the year n = Financial Debts (n)/Ebitda (n)*

**C) Use of the above indicators for the evaluation of the economic and financial situation of Italian and German companies**

The first step was the calculation of the average values of the three above-mentioned indicators for each of the companies (the only exception was the growth, regarding to which the calculation of average values was unnecessary, because the CAGR indicator reflects by itself an average growth rate in three years considered).

$$CAGR = \sqrt[3]{\frac{PV_{2013}}{VDP_{2011}}} - 1$$

$$Average Profitability = \frac{EBITDA_{2011} + EBITDA_{2012} + EBITDA_{2013}}{PV_{2011} + PV_{2012} + PV_{2013}}$$

$$Average Financial Debt Ratio = \frac{Financial\ Deb_{2011} + Financial\ Deb_{2012} + DFinancial\ Deb_{2013}}{EBITDA_{2011} + EBITDA_{2012} + EBITDA_{2013}}$$

Secondly, next step was the calculation of the average value of the three indicators of all of the Italian and German companies, using the following formulas:

$$CAGR = \sqrt[3]{\frac{PV_{c2013}}{PV_{c2011}}} - 1$$

$$Average Profitability = \frac{EBITDA_{c2011} + EBITDA_{c2012} + EBITDA_{c2013}}{PV_{c2011} + PV_{c2012} + PV_{c2013}}$$

$$Average Financial Debt Ratio = \frac{Financial\ Deb_{c2011} + Financial\ Deb_{c2012} + DFinancial\ Deb_{c2013}}{EBITDA_{c2011} + EBITDA_{c2012} + EBITDA_{c2013}}$$

where:

$PV_{c2013}$ ,  $PV_{c2012}$ ,  $PV_{c2011}$  = Production value achieved by the companies from the cluster C in 2013, 2012 and 2011;  $EBITDA_{c2013}$ ,  $EBITDA_{c2012}$ ,  $EBITDA_{c2011}$  = Ebitda realized by the companies from the cluster C in 2013, 2012 and 2011  $Financial\ Deb_{c2013}$ ,  $Financial\ Deb_{c2012}$ ,  $Financial\ Deb_{c2011}$  = financial debts reached by the companies from the cluster c in 2013, 2012 and 2011 ;

c = identifies the country and means respectively Italy or Germany.

The same methodology was adopted to calculate the average values of the indicators for each group of the companies, identified on the basis of classification by production value, presented in point A.

Referring to  $RQ$ , a Pearson correlation between country, production value cluster and single indicators has been calculated. To avoid the impact of outlier on the calculated correlation, the calculation has involved only the values between the first and the fifth quartile. In particular, for each indicator the values included in inter-quartile range have been identified and then we have calculated the correlations between country, production value cluster and single indicator.

The country factor assumes value equal to 1 if each company runs its activity in Italy, and value equal to 0 if it operates in Germany, while the production value cluster assumes values 1, 2, 3, 4, 5 corresponding to clusters of 5-10 mln, 10-50 Mln, 50-100 Mln, 100-200 Mln e 200-250 Mln.

The Pearson correlation, in case in which the two samples are independent, is calculated as follows:

$$\rho = \frac{Cov(x, y)}{\sqrt{var(x)Var(y)}}$$

where

$Cov(x, y)$  = illustrates the correlation between the variables  $x$  and  $y$ ;

$var(x)$  = represents the variance of  $x$ ;

$var(y)$  = represents the variance of  $y$ ;

$x, y$  = reflects the variables by reference to which the correlation is calculated

## FINDINGS AND DISCUSSION

The research was conducted with the reference to Italian and German companies. The sample on which the survey was carried out consists of 41,344 Italian companies and 12,219 German companies. Table 1 shows Italian and German companies according to the different production value clusters identified in the methodology. It's interesting to compare companies' dimensions of analyzed countries.



Table 1 - Comparison Italy/Germany articulation of the Italian and German companies for the production value cluster

<i>Production value cluster</i>	<i>Italy</i>		<i>Germany</i>	
	NR	%	NR	%
5-10 Million	19,050	46.08%	2,661	21.78%
10-50 Million	18,588	44.96%	6,111	50.01%
50-100 Million	2,414	5.84%	2,063	16.88%
100-200 Million	1,081	2.61%	1,141	9.34%
200-250 Million	211	0.51%	243	1.99%
<b>Total</b>	<b>41,344</b>	<b>100%</b>	<b>12,219</b>	<b>100%</b>

**Source: Own elaboration**

According to the table presented above, it emerged that:

- the average production value of 91% of the Italian companies analyzed was between 5 and 50 million euro in period 2011-2013;
- the remaining 9% of the Italian companies analyzed has developed in 2013 a production value between 50 and 250 million euro;
- 72% of the German companies has realized in the period 2011-2013 a production value between 5 and 50 million euro;
- 17% of the German companies analyzed has recorded the production value between 50-100 million euro;
- the remaining 11% of the German companies analyzed has developed in 2013 a production value between 100-250 million euro.

By following, Table 2 shows the comparison between Italian and German companies, in terms of profitability, financial debt ratio and growth (Baginski and Hassel, 2004; Canals, 2001; Hart and Mellons, 1970; Goold, 1999; Grandinetti and Nassimbeni, 2007; Vause, 2001).

Table 2 - Comparison Italy/Germany

<i>Categories of companies in the informative matrix</i>	<i>Profitability</i>		<i>Financial Debt Ratio</i>		<i>Growth</i>	
	Italy	Germany	Italy	Germany	Italy	Germany
5-10 Million	6.67%	9.05%	5.77	6.06	5.12%	5.63%
10-50 Million	6.58%	9.41%	5.00	4.80	-0.15%	1.61%
50-100 Million	6.89%	8.54%	4.04	2.90	-0.31%	1.43%
100-200 Million	6.60%	7.37%	3.49	2.50	-0.98%	1.26%
200-250 Million	5.40%	6.87%	3.94	2.19	-5.86%	-2.02%
<b>Total</b>	<b>6.61%</b>	<b>8.30%</b>	<b>4.63</b>	<b>3.47</b>	<b>-0.17%</b>	<b>0.52%</b>

**Source: Own elaboration**

According to the table presented above, it emerged that:

- In terms of profitability 12,219 German companies in the three-year period considered, have recorded on average 1.3% higher profitability than the Italian ones.

- German companies have a better ability to repay debts than the Italian companies of about 1.2 years.
- Regarding to the growth, in terms of average production value in the three-year period considered, German companies grow on average more than the Italian ones (0.52% for the German companies versus a negative growth of Italian ones equal to -0.17%).

In order to evaluate the correlation between companies' size and performance (Kumar, 1999; Yasuda, 2005; Vlachvei and Notta, 2008) between the two countries, the Pearson correlations between the production value cluster, country and the different dimensions of companies have been analysed (Table 3).

Table 3 – Correlation between production value cluster, CAGR and country

Country	Production value cluster	CAGR	
1	-0.2868	0.2661	Country
	1	-0.0875	Production value cluster
		1	CAGR

Source: Own elaboration

It emerged that the correlation between CAGR and production value is negative (-0.0875), indicating that the growth decrease with increasing the companies' size. However, correlation mentioned before is weak, if compared to the correlation between CAGR and Country where the company operates.

In addition, if we don't take into consideration 25% of the lowest and 25% of the highest data of both countries, the Italian companies grow faster than the German ones. We can therefore say that changes in the production value in time are stronger for Italian companies than in case of German ones. Table 4 represents correlations between production value cluster and profitability.

Table 4 – Correlation between production value cluster and profitability

Country	Production value cluster	EBITDA/Production value	
1	-0.2843	-0.2180	Country
	1	0.0698	Production value cluster
		1	EBITDA/Production value

Source: Own elaboration

The correlation between the production value cluster and profitability (expressed by the ratio EBITDA/production value) is positive and is equal to 0.0894. However, comparing this result with correlation between indicator EBITDA/production value and the company's country, it seems to be weak (-0.0894 and -0.4131). It allows us to conclude, that differences between the two countries persist

and are mainly due to the country's factor rather than company's size factor (Table 5).

Table 5 –Correlation between the production value cluster and CAGR

Country	Production value cluster	Fin. Debt/Ebitda	
1	-0.2747	-0.4308	Country
	1	-0.1331	Production value cluster
		1	Fin. Debt/Ebitda

**Source: Own elaboration**

The correlation between production value cluster and financial debt/EBITDA ratio (Remolona, 1990; Rajan and Zingalez, 1995; Shyam-Sunder and Myers, 1999) is negative and equal to -0.1331, indicating reduction of financial debt/EBITDA ratio with the growth of production value and therefore an increase of the companies' ability to repay their debts. In this case, we can see, how the ability to repay debts is correlated with both the country factor and company's size factor, although the intensity of the relationship is different.

Referring to *RQ*, and analysing correlations emerging from the survey conducted on the data between the first and third quartile, we can affirm that there is a weak relationship between the companies' performance (measured in terms of: profitability, growth and debt repayment capacity) and their size. This relationship shows that with increase of the company's size, it is observed decrease in the growth rate and an increase in the company's ability to repay debts. These results are in line with company life cycle: the companies in the early stage of their lives have significant growth rates (as in the case of the companies with low production value), which are more stable in their development and maturity phases.

For the German companies occurs the following observation: small companies are more indebted and large ones are less indebted than Italian companies. It would appear that once a high level of production value of the German companies is established, they meet their financial needs and fund new investments using the resources generated internally more frequently than Italian companies do. We can affirm that the relationship between the country and the company's performance is relevant, suggesting that the differences between the two countries are mainly due to the structural features of individual countries and only partly due to different size of the companies operating in the two countries.

## CONCLUSIONS, IMPLICATIONS AND LIMITATIONS

The purpose of the research is to determine whether the differences between the performance of companies of Italy and Germany was not only due to their economic characteristics, but also to the size of each company (observed in relation to the production value of that company).

From the conducted analysis, it is possible to say that the German economy is different than Italian one, in terms of company's size (in terms of production value), although in both countries the majority of companies has a production value between 5 and 50 million euro (72% versus 91%)

The correlations among several variables (country, production value cluster, and financial indicators) shows that the country factor (considering its structural and economic characteristics that are different from the company's size) has a primary importance in determining the differences of performance between German and Italian companies. On the contrary, the company performance (measured by the indicators of growth, profitability and debt repayment capacity) and company's size (in terms of production value) are poorly correlated, meaning that the size factor is not one of the main factors that explains why the performance of the German companies is better than Italian ones.

It follows that the global differences between the two countries are mainly due to the structural and economic characteristics of each country and, in residual form, due to different size of the companies operating in those two countries.

The research is characterized by series of theoretical and practical implications.

a) With reference to the theoretical implications, the research can represent a contribution to the scientific debate, because it permits the company to understand, which factors of both internal nature (profitability, growth and ability of debt repayment) and external nature (depending on the structural and economic characteristics of the country) have impact on the companies' performance;

b) With reference to the practical implications: the research is characterized by series of practical implications, as it can represent a contribution for the company and for investors to help their decision making process:

- regarding to the companies, the ownership and/or the management has the possibility to assess degree of influence of a series of variables on the ongoing company's performance. In this way, the decision-making process is more knowledgeable, because the various management's actions have impact on the performances that are object of the evaluation;

- regarding to investors, this research permits to establish what kind of relation exists among a series of variables, that represents a decisional element in reference to the investment choice in a

company: the research findings permit to upgrade the quantitative information around which the investments choices took place.

The research is characterized by several limitations, which nonetheless do not affect significantly the conclusions and proposed observations. There are only three indicators used to assess the company's economic and financial condition (this choice is justified by important correlation between the indicators used and the company's condition). In addition, the different database used to obtain financial statements of the German and Italian companies. In this way the number of Italian and German companies is disproportionate. Lastly, the time horizon on which the survey is carried out didn't permit to assess persistence of the differences in performance of the companies in pre-crisis, during the crisis and post crisis phase.

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## FOSTERING ENDURING CORPORATIONS AND ENABLING SUSTAINABLE GROWTH THROUGH RESPONSIBLE ENTREPRENEURSHIP

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### ABSTRACT

This conceptual paper explores the responsible entrepreneurship notion – being responsible not only for oneself but also to others – in the context of the long-term growth and healthy survival of organizations. Continued healthy survival of organizations requires organizational renewal to face the ever-changing environment. Because renewal is a by-product of qualitative growth, and entrepreneurship a necessary process for growth to occur, this paper offers a typology of seven different modes of growth, which enables distinguishing different sources of entrepreneurial opportunities, a gap identified in the entrepreneurship literature. The typology contributes refinement to entrepreneurship and growth-related concepts such as imbalances – whose occurrence is mandatory for growth to occur. In addition, the paper departs from the widespread success-oriented bias commonly found in the entrepreneurship and growth literatures, maintaining that entrepreneurial initiatives may bring out entrepreneurship's far less divulged dark side. Actually, entrepreneurial choices may give rise to unsustainable business practices that eschew social responsibility and jeopardize the natural environment. Hence, responsible entrepreneurship comprises conceiving a business model that ensures genuine value creation to stakeholders and value capture to the organization; identifying the types and amount of resources and capabilities that would be required to implement a conceived expansion; assessing the likely implications of the entrepreneurial initiative for the organization, should a worst-case scenario materialize; checking on the spillover effects of the growth move on the surrounding environment and society; and assessing whether entrepreneurial aspirations and the drive to pursue them are not disproportionate, so as to avoid costly 'day-dreaming' perilous situations.

**Keywords:** *responsible entrepreneurship; long-term survival; sustainable growth and development; entrepreneurial opportunities; sources of opportunities; entrepreneurial services*



## INTRODUCTION

Around the world, entrepreneurship has been trumpeted as an indisputable path towards growth, wealth creation and happiness. Moreover, the business world does not fall short of amazing entrepreneurs who set remarkable examples. On the other hand, the role entrepreneurs play in society may not be healthy from the society's viewpoint (Baumol, 1990), as entrepreneurial choices may give rise to unsustainable business practices that eschew social responsibility and jeopardize the natural environment. Namely, in addition to entrepreneurship's well-known bright side, entrepreneurial initiatives may bring out entrepreneurship's far less divulged dark side.

Interestingly, optimistic views of entrepreneurship have predominated in the research field. A literature review by Davidsson, Steffens and Fitzsimmons (2008) has identified not only that "growth is often used as sole or main indicator of 'success' in entrepreneurship research" but also "clear signs of a 'pro-growth bias' in that line of research" (p. 4). The perspective offered here suggests that continued responsible entrepreneurship plays a key role in the development of healthy, enduring corporations, and consequently, of healthy economic systems and societies. It draws on Shane and Venkataraman's (2000) definition of entrepreneurship, which has to do with the "identification, evaluation, and exploitation of opportunities (Shane, 2012: 12). According to Shane (2012:16), "little work has explored the sources of entrepreneurial opportunities", and "few authors have pursued the categorization of strong and weak forms of opportunities, representing the Schumpeterian and Kirznerian types, respectively". The paper addresses this gap by proposing a typology of sources of entrepreneurial opportunities, which may be exploited in a constructive or a harmful way. As a result, our perspective departs from the widespread success-oriented bias. In addition, the typology contributes refinement to entrepreneurship and growth-related concepts distinguishing different grades of uncertainty, renewal, as well as capabilities and resources, among others.

The growth process plays a central role in organizational long-term success (failure), since it may contribute different grades of renewal to the organization. Regarded as a change process that occurs over time, a depiction of the growth phenomenon includes both antecedents and consequences of organizational expansion. This paper scrutinizes two enterprising-related antecedents and discusses four likely organizational consequences of growth, whose adequate management enables organizational survival. Figure 1 depicts these elements.

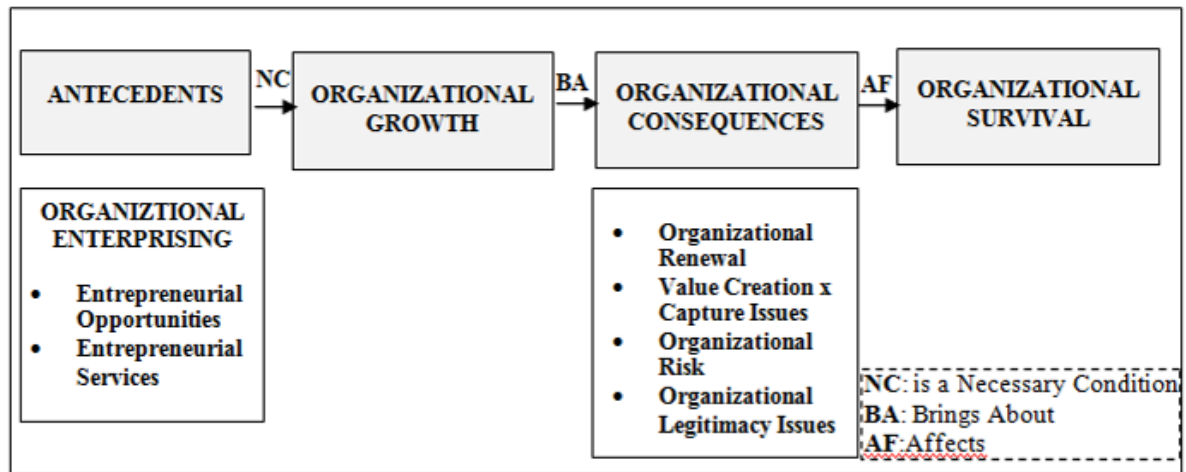


Figure 1. Main Antecedents and Organizational Consequences of Growth

In what follows, the next section scrutinizes the entrepreneurial opportunities notion, advancing a typology of sources of entrepreneurial opportunities. Subsequently, I explore entrepreneurship through the entrepreneurial services (Penrose, 1959) lenses. Finally, the responsible entrepreneurship section addresses four organizational consequences of growth, whose management is challenging if one is committed to fostering a long-term healthy organizational existence.

## ENTREPRENEURIAL OPPORTUNITIES

Entrepreneurial opportunities, also called productive opportunities (Penrose, 1959), profitable opportunities (Kirzner, 2009) or simply opportunities (Venkataraman *et al.*, 2012), refer to those situations in which new goods, services, raw materials, and organizing methods can be introduced and sold at greater than their cost of production (Shane and Venkataraman, 2000). Interestingly, this widely diffused and adopted definition has prompted much debate in the entrepreneurship literature (Shane, 2012).

Two sorts of conjectures stand out. The first concerns whether “opportunities exist in the environment independent of the entrepreneur, waiting to be discovered” (Venkataraman *et al.*, 2012: 22). These *discovery* opportunities (Alvarez and Barney, 2010) correspond to a *Kirznerian* entrepreneur, who “is not seen as disturbing any existing or prospective states of equilibrium. Rather, he is seen as *driving the process of equilibrium*” (Kirzner, 2009: 147). From this perspective, opportunities are associated with discovering “imperfections that exist in a market or industry” (Alvarez and Barney, 2007: 13). Exogenous shocks form opportunities (Alvarez and Barney, 2007) that alert entrepreneurs (Kirzner, 2009) may detect and exploit.

The other conjecture regards whether opportunities “are enacted, depending upon the entrepreneur’s perception, interpretation and understanding” (Venkataraman *et al.*, 2012: 22). In this case, opportunities and entrepreneurs are interconnected, as opportunities do not exist independently of the entrepreneurs who create them (Alvarez and Barney, 2007). From this perspective, entrepreneurs bring about the new, rather than respond to some exogenous shock. As a result, entrepreneurs may produce shocks that disturb the environment (Schumpeter, 1934). Called *creation* opportunities (Alvarez and Barney, 2010), this type of opportunity is related to a *Schumpeterian* entrepreneur – an innovator who brings about radical changes.

Regarding the debate on entrepreneurial opportunities, Klein (2008) points out the confusion over the nature of opportunities and suggests dropping “the concept of *opportunity* altogether” (p. 183). In addition, he maintains, if one treats opportunities as a black box, “then the unit of analysis should not be opportunities, but rather action” (p. 183).

Instead of discarding the opportunity concept, this paper contends that entrepreneurial opportunities have to do with imbalances, whose scrutinizing may help turn a conceptual black box into a grey one. Because imbalances signal the need for and/or embeds a stimulus to change, they hold expansion opportunities for fixing or modifying the status quo. More fundamentally, I submit that *in the absence of some sort of imbalance, and unless one creates it, growth cannot come about, and that in the absence of individuals who can identify or create, and act upon imbalances, growth cannot occur*. These two necessary conditions respectively constitute ontological and epistemological instances of imbalance: ontologically imbalance must exist or come into existence, and epistemologically, it must be known in order for growth to develop.

Summing up, the study of the sources of opportunities for entrepreneurial growth has to do with investigating imbalances, and growth requires entrepreneurial services (Penrose, 1959) of individuals capable of identifying or creating opportunities, and of acting upon them. Penrose’s four dimensions of entrepreneurial services – versatility, judgment, fund raising, ambition – match the elements making up Shane and Venkataraman’s (2000) entrepreneurship notion. Opportunity discovery has to do with Penrose’s entrepreneurial versatility service, comprising imagination, creativity, innovation, environmental scanning and search processes. Opportunity evaluation corresponds to Penrose’s entrepreneurial judgment service regarding how sound the idea likely is. Finally, opportunity exploitation includes fund raising services, which involves engaging resources, sponsors and team members in the venture, and entrepreneurial ambition, which refers to having enough drive for action and applying it to expand one’s activities.

The next section puts forward a typology of sources of entrepreneurial opportunities, elaborating further on the nature of imbalances. Drawing on this typology, the paper subsequently explores entrepreneurship through the entrepreneurial services lenses.

*A typology of sources of entrepreneurial opportunities*

Imbalance may be found at different levels and take many different forms. At the individual level, for example, the minds of creative people can be a continuous source of imbalances by conceiving new ideas that challenge the current state of affairs. At the firm level, the identification of underutilized resources (imbalance) may give rise to firm growth as a result of management's efforts to make full use of firm resources (Penrose, 1959; Chandler, 1977). At the industry level, poor logistics services (imbalance) may inspire entrepreneurs to start-up distribution businesses to fulfil the noticed gap. At the macro-environment level, financial crises (imbalance) may bring about growth opportunities for some economic actors.

The first two modes of becoming bigger – inertial and dialectical – constitute extreme poles of the quantitative-qualitative continuum. The inertial path is about doing more of the same, bringing about scarcely any important innovation. Re-establishing balance does not require significant changes in business as usual. As a result, it holds opportunities for replicating and exploiting (March, 1991) ongoing activities, which will last for an uncertain amount of time. On the other hand, the dialectical path has to do with innovatively handling an antagonistic situation in a way that satisfies the seemingly incompatible elements. It re-establishes balance by introducing novelty that eliminates the existing mismatch.

Two other modes – interactional and structural – distinguish same level and multi-level growth processes, respectively. The interactional path regards expansion by means of competitive battles in the market place, combining competitive and cooperative behavior among players. Competitive advantage is the dominating type of imbalance, which opens windows of opportunity for introducing innovation that may allow one to keep or gain competitive advantage. The quest for fighting imbalance will not necessarily re-establish balance, but rather give rise to punctuated balance.

Growth Formation Paths	Main Characteristics	Nature of Imbalance and Opportunity Type	Nature of Uncertainty
Inertial	Growth happens by doing more of the same or by profiting from arbitrage. This mode introduces scarcely any innovation as one takes hold of an expansion opportunity.	Imbalance nature: Unattended demand for some product or service (business as usual dimension); overvalued or undervalued product, service, stock (arbitrage dimension). Opportunity type: replicative, exploitative, keeping the status quo; re-establishing market prices balance	Quantitative. How much and for how long will replication/arbitrage be likely sustained?

		through arbitrage.	
Dialectical	Growth comes about by means of dialectical innovation on products, processes or services.	Imbalance nature: A trade-off; an EITHER-OR situation. Two desirable but incompatible qualities or conditions. Opportunity type: creative synthesis	Qualitative. What kind of novelty will emerge as a result of synthesizing antagonistic features?
Interactional	Growth is the result of battles in the market place that combine competition and cooperation among same level players, engendering a stream of short-lived innovations.	Imbalance nature: Competitive advantage acquired by an innovative rival firm (competitive dimension); collaborative arrangement to overcome a firm's competitive weakness (cooperative dimension). Opportunity type: short-term, competitive responsiveness. Introducing minor changes (competitive dimension); adding in some newly acquired capability (cooperative dimension).	Peer Responsiveness. What kind of reaction one's action will prompt in one's rivals and partners? How fast must one react in the competitive arena?
Structural	Growth of parts (e.g. firms; business units) depends on the growth of the whole (e.g. industry; firms) and vice-versa. For one, the development of standards, laws, rules, procedures by the parts is a requirement for eliminating obstacles to the growth of the whole (parts' convergence). In turn, standards will set the base on which the parts may grow through diversification by turning into productive their unused resources (parts' divergence).	Imbalance nature: Missing or multiple competing standards (parts' convergence dimension); underused productive resources (parts' divergence dimension). Opportunity type: structural change. Starting a new economic sector or metamorphosing an existent one (parts' convergence dimension); promoting a part's-related expansion by means of diversification (parts' divergence dimension).	Multilevel interdependency. Which standard will prevail, which kind of configuration will likely emerge, and what are the likely implications for parts' strategies? What kind of disintegrative pressures the whole will likely experience due to the growth-related strategic moves of its parts?
Externally-determined	Growth ensues by responding to changes in the environment. It results in an adaptive sort of innovation.	Imbalance nature: Elements of the macro environment get out of balance. Opportunity type: environmental change. New demands derived from environmental change.	External (environmental determination). To what extent will environmental change likely affect business as usual? How deep should the organization change its state of affairs?
Chance-led	Growth is accomplished by chance, i.e. it results from the joint action of independent or quasi-independent actors. By undertaking activities, whose successful outcomes have a probabilistic distribution, it may ensue breakthrough innovation.	Imbalance nature: statistical/ random. Multiple conceivable exploratory paths (towards success, goal achievement, problem solving). Opportunity type: placing bets within a high risk-return perspective	High unpredictability. What is the path to ground-breaking innovation? Which contender will likely succeed at contributing ground-breaking innovation?
Goal-directed (teleological mode)	The pursuit of growth goals set at the beginning of a period triggers other growth processes, producing different sorts of innovation.	Imbalance nature: unachieved goals, a vision of the future Opportunity type: Any of the above.	Which goals, targets visions should be pursued?

Figure 2. *Typology of Sources of Entrepreneurial Opportunities*

The structural path, in turn, refers to processes occurring at more than one level of analysis, i.e. a whole and its parts. At the level of the whole, missing or multiple competing standards constitute the imbalance that hinders the growth of the whole. This condition embodies opportunities for parts to take part in shaping their environment and acquire some competitive advantage thereof. Re-establishing balance consists of instituting standards that will set the course of further action. At the level of the parts, imbalance has to do with excesses that keep unused and may constitute waste or become losses. Re-establishing balance consists of turning unproductive into productive elements. This gives rise to expansion through diversification, by incorporating new profitable activities. As a

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consequence of the growth of parts, the whole will likely have to manage the outbreak of disintegrative pressures caused by diversification.

The next two modes – externally-determined and chance-led – constitute extreme poles of the causation continuum. This path has a deterministic nature, referring to growth stimulated by external factors (deterministic nature). Macro environmental imbalances prompt opportunities for expansion. Re-establishing the balance requires one to adapt business as usual to environmental changing demands. Chance-led, in turn, has a probabilistic nature, corresponding to expansion that results from the joint action of independent or quasi-independent entities. Growth efforts are not directed to re-establish balance, but rather to place bets on specific courses of action. If successful, it will generate expansion that likely has high payoff.

Finally the seventh mode – goal-oriented – refers to expansion processes triggered by goals and visions of the future. These, in turn, determine the means whereby the organization will grow, i.e. they determine which other modes will likely be triggered in order to achieve the goals and/or materialize the visions. Unachieved aspirations constitute the nature of imbalance. Re-establishing balance consists of attaining the established goals.

## **ENTREPRENEURSHIP AS SERVICES RENDERED TO THE ORGANIZATION**

Edith Penrose (1959) views firms as collections of productive resources. Yet, when it comes to explaining how productive activities come about, she maintains that one must look beyond resources. Actually, the very inputs to productive activities are the services that resources can render. Moreover, when it comes to the growth process of firms, organizations require growth-enabling services. One such type of service is enterprising, also called entrepreneurship – a type of service human resources can provide.

Individuals who are endowed with the enterprising quality provide entrepreneurial services that are essential for the growth of firms. Penrose (2009) distinguishes four main dimensions of what she calls “the ‘temperamental’ aspects of the quality of entrepreneurial services. These are entrepreneurial versatility, entrepreneurial judgment, fund-raising ingenuity, and entrepreneurial ambition. As mentioned before, these services correspond to entrepreneurship, as Shane and Venkataraman (2000) have defined – opportunity discovery (versatility), opportunity evaluation (judgment) and opportunity exploitation (fund-raising and ambition).

*Entrepreneurial versatility*

Penrose (1959) distinguishes three sorts of versatility: technical, managerial and entrepreneurial. While the first refers to technical competence, the second is a matter of administrative competence, and the third is about imagination and vision.

Entrepreneurial versatility is about identifying and/or creating imbalances that may constitute opportunities for expansion. Imbalance identification or creation results from setting in motion search processes, which may contribute different kinds of innovation. The imbalance-search-innovation connection suggests that search and innovation may vary in accordance with the seven modes of becoming bigger.

Searching for markets in order to replicate ongoing activities (inertial search) is one of the most straightforward search forms in well-established businesses. It is conspicuous in those successful cases that experience unmet and/or increasing demand for a company's products/services. Search mechanisms seek to identify those markets likely to welcome the company's products and/or operations. Inertial expansion tends to produce more of the same things, introducing minor refinements and extensions of established designs.

Dialectical search chases after misfits, trade-offs and conflicts. The opportunity consists of turning inconsistencies into a synthesis of previously antagonistic features. New operating procedures reconcile opposing or conflicting objectives or properties requiring from organizational members the ability to handle a number of tensions.

In turn, competitive intelligence applies to interactional search. It includes initiatives like market research about own and rivals' products and services; follow-up procedures of actual sales and market share dynamics; taking part in events in the industry such as industrial expositions; improving the personal network of contacts. Growth materializes through the development of short run responsiveness to stakeholders, as well as to competitors' moves. The pair imitation-small improvements fuels innovation in the interactional mode.

Searching for waste (underutilized resources) as well as for bottlenecks that hinder the growth of a focal system (a firm, an industry, etc.) typifies the structural mode. As a result, growth brings about new structural elements to the whole. On the one hand, new elements generated by the productive elimination of waste enter the system. On the other, new standards enable expansion that was blocked.

In the externally-determined mode, searching for environmental trends lets firms become aware of environmental changes enabling them to react accordingly. Innovation is produced to cope with

environmental change. Searching for new, highly uncertain avenues is characteristic of the chance-led mode. Cutting-edge research fuels innovation that may ensue of those initiatives.

Finally, benchmarking as a way to establish goals is a search mechanism in the goal-directed mode. Operating procedures are conceived to achieve global goals of performance, or to implement features in existing products/services. Goal-directed complex projects generate several sorts of innovation that make up the project.

### *Entrepreneurial judgment*

Distinguishing a vision from a 'mirage' is what entrepreneurial judgment is about. This dimension has to do with assessing the likelihood of value capture from seemingly value creating ideas generated by means of entrepreneurial versatility. This service comprises the ability of making sound judgments, while avoiding mistakes like overestimating the firm's abilities, wrongly guessing about how future events will develop in the future (Penrose, 1959: 41), and underestimating the risks involved, among other judgment-related flaws.

From the viewpoint of individuals, both technical versatility and managerial versatility may provide valuable contribution towards assessing new ideas. Technical versatility may help evaluate an idea's technical feasibility, while managerial versatility may contribute assessment about the economic and market-related issues, as well as about the organizing requirements for the successful carrying out of the innovative idea. In sum, these types of versatility may help assess an idea's potential for creating and capturing value.

Differentiating a sound vision from unrealizable, infeasible, inexecutable, unachievable fantasy is a matter of individual skills, as well as organizational capabilities. As Penrose (1959: 40) submits, "the quality of entrepreneurial judgment is only partly a question of the personal characteristics or temperament of the individual". In addition to individual qualities, such as providing "reasonably 'sound' judgments" (Penrose, 1959: 41), entrepreneurial judgment "is closely related to the organization of information-gathering and consulting facilities within the firm." (Penrose, 1959: 41) As a result, organizational capabilities to assess new productive opportunities may develop and improve as firms grow and age.

Finally, identifying the likely capabilities an expansion move will require to succeed can enhance entrepreneurial judgment quality. Figure 3 displays some of these capabilities associated with each mode of becoming bigger.



Modes of Growth	Type of Opportunity	Required Capabilities and Resources
Inertial	Replication and Arbitrage	Efficiently replicating
Dialectical	Creative Synthesis	Creative handling of conflicts
Interactional	Competitive Responsiveness	Short-run flexibility. Knowledge exchange ability
Structural	Structural (involving parts and whole)	Coordination of external players and of internal parts
Externally-determined	Environmental change	Adaptiveness
Chance-led	High risk-return	Deep pockets. Patient money
Teleological	New or unachieved goals	Setting challenging, viable goals

Figure 3 – Capabilities and Resources Required for Implementing Growth

*Fund-raising ingenuity*

More often than not, pursuing promising, seemingly viable ideas requires additional resources. Yet, most entrepreneurs fall short of resources to carry out their new ventures. Fund-raising ingenuity is, therefore, about persuading investors into backing new productive opportunities entrepreneurs have envisaged.

For a number of reasons, entrepreneurs may do without fund-raising. Some may own enough resources and wish not to share risks and outcomes of their new ventures. Others may wrongly estimate the nature and amount of resources, launch their ventures on their own, and end up facing resource shortage later on. Finally, more often than not financial backing shortage has been appointed as a major hindrance to pursuing new ventures. Notwithstanding the challenges that fund-raising poses to an entrepreneur, Penrose contends that rather than being an external problem, it should be viewed as an internal weakness. Penrose (1959: 37) maintains “there is a relation between entrepreneurial ability and the finance a firm can attract, and that difficulties attributed to lack of capital may often be just as well attributed to a lack of appropriate entrepreneurial services, in the sense that a different entrepreneur in the same circumstances might well achieve different results”.

*Entrepreneurial ambition*

While versatility enables one to spot possibilities for engaging in new profitable activities, a complementary aspect – ambition – is necessary for materializing/ implementing them. Penrose (1959: 35) associates entrepreneurial ambition with a *drive* to expand a firm’s operations “in an unending search for more profit, and perhaps greater prestige”. Drive, in turn, refers to the desire, feeling or

motivation that arouses one to action toward a desired goal. Such drive, however, may differ both quantitatively and qualitatively among those who provide entrepreneurial services.

From the qualitative view, several authors have identified different growth purposes among entrepreneurs. Chandler (1977) distinguishes *productive* and *defensive* expansion motives. The first seek “increased productivity by lowering unit costs” (p. 487) entailing a search for economies of scale and scope. Defensive moves, in turn, “stemmed from a desire for security” (p. 486), leading to vertical integration among other protective moves. Building on Chandler’s typology, Fleck (2009) has identified the *hybrid* mode, which combines the productive and defensive types, and the *nil* motives that include neither productive nor defensive purposes. Rindova *et al.* (2009) distinguishes *breaking free* and *breaking up* motives for engaging in entrepreneurial activities. Both types are associated with a search for autonomy. Both entail intent on releasing from what the entrepreneur perceives as an undesirable condition. A breaking free impetus seeks freedom from authority, while a breaking up initiative aims to eliminate perceived constraints by means of innovation. In sum, while breaking up motives necessarily entail some degree of innovation to enable breaking away with the status quo, breaking free don’t.

## RESPONSIBLE ENTREPRENEURSHIP FEATURES

Developing and nurturing long-lived healthy organizations requires growth-fostered **organizational renewal**. Different types of imbalance contribute different amounts and/or kinds of renewal. Regarding *versatility services*, responsible entrepreneurship includes conceiving a steady stream of potentially renewing activities derived from envisaged entrepreneurial opportunities. With respect to *judgment services*, it is up to responsible entrepreneurship to check on the renewal potential (innovation and learning opportunities) as well as the long-term effects of the initiative’s strategic purpose (defensive, productive, hybrid or nil).

Depending on how expansion is carried out, entrepreneurial initiatives may (or may not) **create value and enable value capture** (Bowman and Ambrosini, 2000; Lepak *et al.*, 2007). Failure to create and capture value affects in a negative way organizational survival chances over the long run. Concerning *versatility services*, responsible entrepreneurship encompasses conceiving a business model (Magretta, 2002) that ensures continued value creation to stakeholders and value capture to the organization. The starting point of value creation lies in identifying (discovering or creating) some imbalance. Different types of imbalance correspond to different modes of growth, and different search mechanisms. Organizations, therefore, may differ on their growth orientation depending on the types of search their entrepreneurial versatility services employ. From a long-term perspective, making use of a combination of search mechanisms enhances an organization’s chances to spot opportunities for expansion. As to

*judgment services*, responsible entrepreneurship involves checking on the soundness of the conceived business model.

Assessing a likely value creating opportunity includes estimating **risks**, in order to evaluate the success chances of a prospective initiative. As regards *versatility services*, responsible entrepreneurship comprises identifying the resources and capabilities that are likely required for implementing the conceived expansion. With respect to *judgment services*, responsible entrepreneurship encompasses scrutinizing the types and amounts of required resources and capabilities, as well as assessing the likely implications for the organization, should a worst-case scenario materialize. As to *fund raising services*, responsible entrepreneurship comprises not only amassing the required resources, sponsors and team members, but also assessing the likely consequences of future demands on the organization, which may cause organizational fragmentation, or put excessive pressure on expansion speed, among others.

Finally, complementary analyses are required to assess the effects of expansion on organizational **legitimacy**. Concerning *versatility services*, responsible entrepreneurship emphasizes genuine value creation for stakeholders rather than offering some senseless, regulation-sponsored moneymaking scheme. Regarding *judgment services*, responsible entrepreneurship includes checking on the spillover effects of the growth move on the surrounding environment and society.

Interestingly, ambition, the entrepreneurial service that provides the required energy for an entrepreneurial initiative to materialize, poses a major challenge to responsible entrepreneurship. While ambition is determinant for execution, if not combined with the three other entrepreneurial services, ambition may give rise to unhealthy growth, which may endanger organizational survival and bring about harmful consequences to the surrounding environment and society. Thus, regarding *ambition*, responsible entrepreneurship involves assessing whether entrepreneurial aspirations and the drive to pursue them are not disproportionate, so as to avoid costly 'day-dreaming' perilous situations.

## CONCLUSION

From a long-term perspective, responsible management has to do with the pursuit of organizational healthy survival over the long run. The scope of responsibility is broad including individuals, firms, industries, economic systems, societies, and the planet, since organizational survival depends on the survival of all those entities. Moreover, from a long-term perspective, responsibility transcends the concern with mere subsistence, focusing instead on the healthy survival of organizations and their members, as well as of the entities around them.

The changing environment keeps threatening organizational continued existence, unless the organization manages to renew over time, by expanding its capabilities set. This long-term survival

requirement can be fulfilled by means of the growth process, which may provide the organization with renewal seeds (Fleck, 2009). In addition to contributing renewal seeds, growth brings about three other sorts of consequences that affect organizational survival chances in different ways. First, healthy organizational survival requires a continuous stream of value creating activities from which the organization is required to capture value in order to sustain its operation over the long run. Second, expansion brings about additional risks to the continued existence of the organization. Third, expansion brings about changes in the organization's set of relationships with the entities in the environment, which gives rise to organizational legitimacy issues.

Because growth is not a spontaneous but deliberate process (Penrose, 1959), entrepreneurship is a required antecedent of growth. Entrepreneurship is about figuring out and acting upon opportunities for expanding ongoing activities or starting new ones. Because entrepreneurial opportunities reside in imbalances, understanding the nature of imbalances offers two main contributions. First, it allows addressing the call for exploring the sources of entrepreneurial opportunities (Shane, 2012). Second, it deepens our understanding about growth and its likely consequences on the organization. By distinguishing different sorts of imbalances, the typology advanced in this paper takes steps towards advancing knowledge on entrepreneurial phenomena and organizational growth. In fact, not only it identifies a range of expansion paths entrepreneurs may choose from in order to provide entrepreneurial services, but also provides a comprehensive framework for undertaking scrutinizing related constructs such as uncertainty, innovation, search mechanisms, imbalances, required resources and capabilities, among others.

Responsible entrepreneurship is an overarching notion that includes the organizational responsibility vis-à-vis genuine value creation for stakeholders, satisfactory value capture for the organization, systematic assessment of risks, and intensity of expansion speed, among others. This notion helps advance research and practice for those concerned with the long-term healthy survival of organizations, environmental sustainability, and society's robust development. This paper contributes a research road map offering a blueprint for performing fine-grained research on the responsible entrepreneurship topic. The notions put forward here can also help develop practitioners' awareness of the wide range of entrepreneurial opportunities there may be, as well as create practitioners' alertness to entrepreneurship's dark side so that unpleasant shortcomings may be avoided.

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# A CONCEPTUAL FRAMEWORK AND A PROJECT PROPOSITION OF ETHICAL BEHAVIOUR AT THE WORKPLACE: *SCHOOLS IN THE STATE OF KUWAIT*

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## ABSTRACT

**The purpose:** The purpose of this research is to present a conceptual framework of ethical behaviour at the workplace applicable to the education system of Kuwait. More specifically, the paper will elaborate on the factors influencing ethical behaviour at the workplace in Kuwait. The proposed conceptual framework of ethical behaviour was developed by adapting several theories and models.

**Design, Methodology, and approach:** This research will utilize *sequential exploratory* mixed methods design; the research involves *two sequential stages*, qualitative and quantitative stages. The data will be collected by means of face-to-face and semi-structured interviews such as in depth interviews and group interviews, followed by a questionnaire survey. The respondents represent teachers working in the Kuwaiti schools.

**Findings:** The research expects to find a significant relationship between the independent variables and the dependent variable. Ethical behaviour is a huge topic, and a number of factors influence ethical behaviour.

The study reflects work in progress. At this stage, an initial model will be presented which is suggested to be validated in the following empirical research stages

**Originality and Value of the Research :** To the knowledge of the authors, this type of research is going to be conducted for the first time in the private and public schools in the state of Kuwait.

The empirical study is looking to differentiate conceptual ethical behavior model valid for education system in Kuwait and attempts to reinforce ethical behaviour and combat the widespread unethical behavior in Kuwait as *wasta*.

**Keywords:** *Ethical behaviour, Organizational ethical culture, National culture, Personal ethical tendencies and wasta.*

## INTRODUCTION

In developing a research around the subject of ethical behaviour, it is fundamental to understand the meaning of ethics and the schools of ethics as well as the importance of ethics.

Ethics started since longtime as the basis of all religions, subsequently taught within the family and society to arrange and control relationships between individuals.

However, it is not only religions that promoted the importance of ethics in governing the human relations, the need for sets of principles was discussed by several thinkers and philosophers.

In addition, education system in Kuwait has its problems, teachers complain from the ministry of education about unfair treatment, the education level of the students is low and the plagiarism is widespread in the schools.

## AIM

The aim of this research is fill the gap in the area of business ethics in the Arab region and to differentiate a conceptual framework of ethical behaviour at the workplace applicable to the education system of Kuwait.

## OBJECTIVES

- 1- To identify the factors that affect ethical behaviour in schools in Kuwait.
- 2- To determine the factors associated with an organization's ethical cultural and national culture that affect ethical behaviour in schools in Kuwait.
- 3- To identify the extent of the influence of factors, such as ethical personal tendencies, on ethical behaviour in schools in Kuwait.
- 4- To determine the relationship between individual characteristics (age, gender, nationality, educational level, work experience, and work sector) and the ethical behaviour in Kuwaiti schools.
- 5- To develop a conceptual ethical behaviour framework at the workplace applicable to the education system of Kuwait.

## RESEARCH QUESTION

What are the most important factors that create an ethical environment and lead to ethical behaviour in schools in Kuwait?

## DETAILED QUESTIONS: (RELATED TO QUALITATIVE STAGE)

- 1) What are the most effective dimensions of the organizational ethical culture that affect ethical behaviour in schools in Kuwait?
- 2) What are the factors that associated with the national culture affect ethical behaviour in schools in Kuwait?
- 3) What are the factors that influence personal ethical tendencies in schools in Kuwait?
- 4) What are the factors that influence ethical behaviour in schools in Kuwait?
- 5) What differences exist between socio-demographic factors when investigating the effect of an organization's ethical cultural orientation, national culture, and personal ethical tendencies on ethical behaviour in schools in Kuwait?

Beauchamp and Bowie (2000) defined ethical behaviour as a behaviour that is assumed to be right or wrong and therefore guides what people should or should not do.

Dobrin (2009) indicates that ethics is concerning with good and bad, right and wrong, better or worse; the values you hold and how you achieve them, and states that ethical behaviour of individuals in business is important for well-being for others, and ethical behaviour of organizations leads to long-term success.

## **FINDINGS AND RESULTS**

This study expects to have a significant relationship between the dependent variable and the independent variables. The study reflects the work in progress, at this stage, an initial framework will be presented that will be tested in the following empirical research stages. Moreover; the methodology of the research will be explained. Both the qualitative and quantitative data analyses have not been finished yet, but as i started with the qualitative stage, the interviews have been done with teachers and administrates working in Kuwaiti schools, and the interviews have emerged the factor of “wasta”. The complete results will be provided in the Euro-med conference that will be held in Poland, after the complete analyses are finished.

## **ETHICAL THEORIES**

Dobrin (2009) summarizes three schools of ethics, virtue ethics, deontological and consequential.

## **VIRTUE ETHICS**

The virtue theory focuses on the person and issues of character and integrity. The central concern of this theory is what makes a good person. A philosopher Aristotle represents the virtue ethics. He



looks for the good life, accordingly, a moral person is not that one who does the right thing once in a while but the moral person is that one who lives life within the framework of ethical virtues.

## DEONTOLOGICAL THEORY

The deontological theory attempts to evaluate actions as right or wrong, and focuses on the motive of an action and the intention behind it regardless of the consequences. The theory argues that morality is adhering to a set of rules that guides the action of an individual regardless of the consequences.

## CONSEQUENTIAL THEORY

The consequential theory focuses on the external results of an action. This theory desiring the greatest good for the greatest number of people. The English philosophers Jeremy Bentham and John Stuart Mill explained it as the theory of utilitarianism.

## SCHOOLS AND TEACHERS IN KUWAIT

**As stated in the ALLAN online newspaper (2014), the Kuwaiti Professor Shamlan Al-Issa said that plagiarism is expanded in the schools in Kuwait as a result of the nature of the deterioration of ethics and values in the Kuwaiti society.**

Al-Qatari (2010) claimed in the Kuwait Times newspaper that some teachers in schools in Kuwait suffer from unfair payment. They apparently informed the Kuwait Times newspaper that they did not receive a suitable salary, as promised them by the Ministry of Education in Kuwait. Others complained that among the most unjust of the Ministry of Education's acts in Kuwait letting teachers work overtime without extra payment.

Another teacher informed the Kuwait Times that some expat teachers have left Kuwait due to the Ministry of Education's bias regarding payments for expatriate teachers who receive less than Kuwaiti teachers.

Accordingly; this research will consider the teachers working in schools in Kuwait.

## LITERATURE REVIEW

Ethical behaviour is a huge topic, and a number of factors influence ethical behaviour. This research will elaborate on the factors influencing ethical behaviour of different aspects such as informal and formal organizational ethical culture, national culture, personal ethical tendencies and individual characteristics.

### *Organizational ethical culture*

Kaptein (2008) introduced a model of the organizational ethical culture that consisting of eight dimensions as clarity of ethical policy, sanctions, congruence of management, congruence of supervisors, transparency, feasibility, discussability and supportability which can be employed to understand and explain unethical behaviour in the workplace. Mayer et al. (2012) found a negative relationship between ethical leadership and unethical behaviour. Moreover, Kalshoven et al. (2011) highlighted dimensions of ethical leadership as fairness, integrity, ethical guidance and power sharing. In addition, Kaptein (2011) and Dorasamy (2012, 2013) suggested whistleblowing and code of ethics as an aspect of formal organizational ethical culture.

### *National culture*

Hofstede (1993), as summarized by Yu and Miller (2003), defined national culture as a collection of values and beliefs that groups of people have developed over time as a result of their relationship with their environment. The cultural values that employees bring with them into an organization are crucial to their ethical behaviour within that organization. Hofstede [6, 7], as summarized by Shore and Cross (2005), argued that individuals in an organization are influenced not only by their job at the workplace but also by the cultural values they bring with them into the organization.

Hofstede (2015) indicated that globalization and diversity have made cross-cultural management important; he introduced six dimensions of national culture as individualism vs collectivism, masculinity vs femininity, power distance, uncertainty avoidance, long-term vs short-term orientation and indulgence vs constraint.

On the other hand, Obeidat et al. (2012) indicated that Arab countries were not classified in the Hofstede's dimension of long-term vs short-term orientation, they argued that Islam and different levels of familism characterize the Arab culture, where the loyalty of individuals is for their families, tribe, religious sect or to the extended family, furthermore, Hofstede indicated that Arab culture is characterized by having a large power distance, strong uncertainty avoidance, high collectivism, and a moderate Masculine culture and femininity. Islam is an official religion in Kuwait, it corresponds with the constitution, and it states that Islam is the source of the legislation, (Kuwait constitution, 1962).

Almutairi (2013) highlighted that that Islam affects different aspects in Kuwait such as family relationship, business etiquette food, drinks, and personal hygiene, and agreed that national culture of Kuwait is affected by Arab tribal traditions. In the same regard, Bowman (2010) and (Ali and Al-Kazemi, 2007), indicated that Kuwait is an Islamic country, and Islam is a dominant variable influences the Kuwaiti culture and dictates the way of daily living and behaving in the workplace.

Ali and Al-kazemi (2007) indicated that the environment of Kuwait is not hospitable for hard work among Kuwaiti citizens, citizens employ expatriate to do hard work, and they found that Kuwaiti

managers scored lower than expatriate on both Islamic work ethics and loyalty and men scored relatively higher than women on Islamic work ethics.

Moreover, Fernando and Chowdhury (2010) suggested that well-being relates to people's wellness or the totality of their health, including inner resources and how these impact individual and social behaviour. They suggested that well-being affects ethical-decision making in the workplace.

Ferrell and Gresham (1985), as cited by Alleyne et al. (2010), stated that moral philosophies played a crucial role in the ethical decision making of an individual. Moreover, Alleyne et al. (2010) suggested that religious commitment significantly affect the ethical decision making of individuals.

In the same regard, Dobrin (2009) agreed that religion stands behind ethics, otherwise morality could be no more than a preference for people.

#### *Personal ethical tendencies*

Johari et al. (2012) found a significant relationship between determinants of personal ethical tendencies as idealism, relativism and utilitarianism and the dependent variable ethical behaviour.

In addition, many researchers as Alleyne et al. (2010), Al-Khatib et al. (2002) and Bass et al. (1999) investigated the relationship between the individual variables and organizational variables and ethical behaviour in the workplace.

#### *Group ethical tendencies*

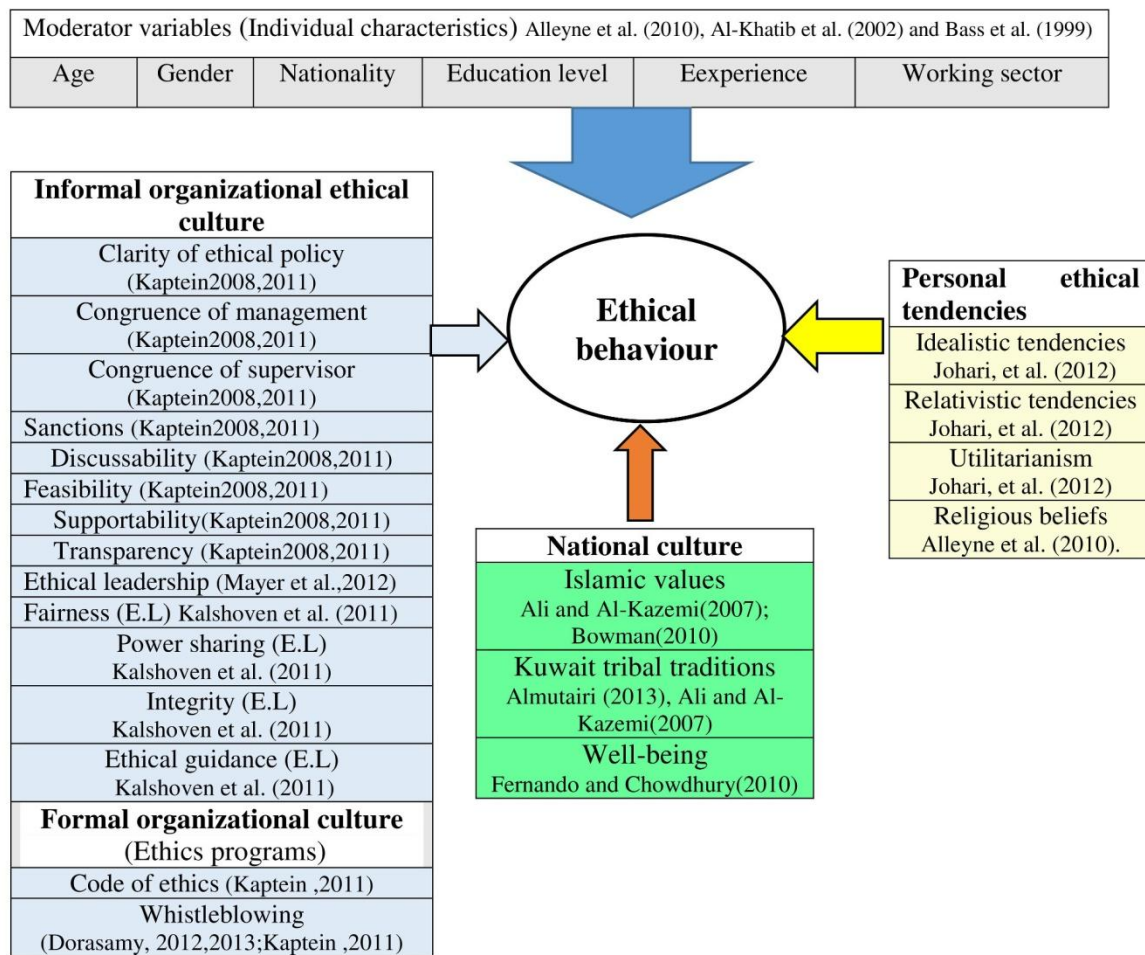
Wasta is an Arabic version related to favoritism or nepotism, and it is rooted in the Arabic culture.

Weir and Hutchings (2006) stated that China and the Arab world regarded as low context societies and they prefer to use the connections to build trust relationships before engaging in business.

*Overall*, various aspects of independent variables will be considered in this research as individual characteristics, organizational ethical culture, national culture and personal ethical tendencies.

Based on the previous review, the following conceptual ethical behaviour of ethical behavior is shown below:

## A CONCEPTUAL FRAMEWORK OF ETHICAL BEHAVIOUR



**Research problem:** Because of scandals, collapse of organizations, plagiarism, and unfair treatment, a significant attention has been directed to business ethics.

Literature review worldwide have identified different factors affecting ethical behaviour in organizations, but it is not clear which factors affect ethical behaviour in Kuwaiti schools.

**Research gap** The conceptual model of ethical behaviour was developed by adapting several theories and models from different business and academic journal articles. However, the research uses different aspects to formulate the conceptual ethical behaviour model, in particular, by improving the ethical models by Kaptein (2008) and Mayer et al. (2012) and combining other variables as illustrated below:

- 1) Kaptein (2008) indicated that his model has been developed to explain ethical and unethical behaviour. However, it was tested only on unethical behaviour. Therefore, I will test variables from his model on ethical behaviour.
- 2) The sample in Kaptein's model (2008) was drawn from Western organizations, which means that sample did not represent Arabic societies. Adler, (1991), Hofstede (1993) and Mead (1994), as summarized by Yu and Miller (2003), indicated that national culture has a great impact on

all aspects of management behaviour; Hofstede (1993) also suggested that people with different cultural backgrounds would have different work values.

Accordingly, this research will re-test the selected variables in Kuwait.

- 3) As summarized by Kaptein (2008), other researchers such as Baucus and Near(1991) have proposed studying other factors from outside the organization, as well as, the personal characteristics of employees.
- 4) Mayer et al. (2012) studied the effect of ethical leadership on negative outcomes such as unethical behaviour, and Kaptein (2008) related organizational ethical culture to negative outcomes such as unethical behaviour, but Walumbwa and Schaubroeck (2009), and Piccolo et al. (2010), as summarized by Mayer et al. (2012), suggested that ethical leadership is related to positive behaviours.

## **RESEARCH PHILOSOPHY, METHODOLOGY AND METHODS; PHILOSOPHICAL POSITION AND JUSTIFICATION**

Critical Realism is the position of my philosophy, which justifies the use of a methodology to conduct the research. Qualitative and quantitative philosophies have shared in the development of mixed methods research. The research will start with the qualitative stage, which will value the research by utilizing experiences and human thoughts of people contribute to our knowledge in this field. The second quantitative stage seeks to validate and generalize the finding of the qualitative stage. Research questions of the quantitative stage concern with the causal relationships between independent and dependent variables, therefore, there is a need for a tool to measure the phenomenon in terms of the quantitative data and hypotheses testing. Accordingly, the research will employ mixed methods to make a better understanding of a phenomenon.

Based on Cotty (1998), the following table highlights the framework of the philosophical position of this research as shown in table1.1:

Table 1.1 Framework of the philosophical position of the research	
Epistemology: The theory of knowledge embedded in the theoretical perspective and methodology.	Mixture of ontological objectivism and epistemological subjectivism
Theoretical perspective: The philosophical position informing the methodology	Critical realism
Methodology: Strategy behind the choice of data collection	Qualitative and quantitative
Methods: Techniques to gather and analyses data	Methods: Case study and surveys. Techniques: Interviews and questionnaires

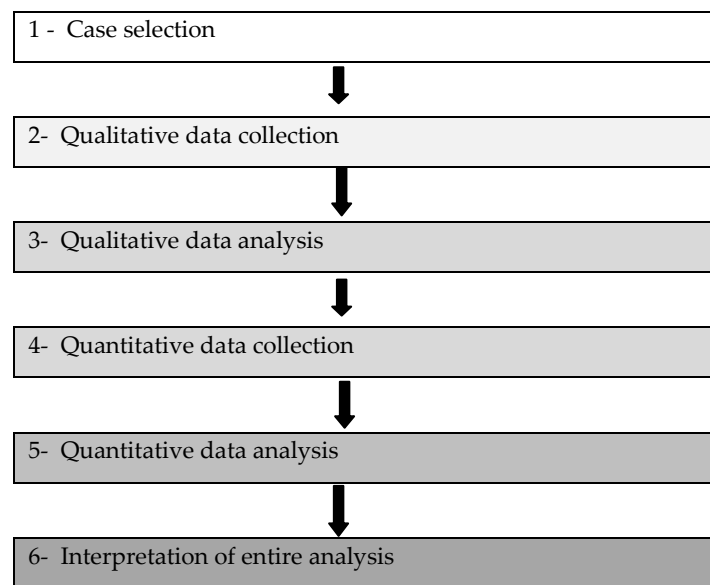
## MIXED METHOD RESEARCH

This research will utilize mixed methods, which is a procedure for collecting, analyzing and combining both quantitative and qualitative data at some stage of the research procedure within a single study, to communicate the research problem more clearly. Creswell (2002), as cited in Hanson et al. (2005), highlighted reasons for conducting mixed methods research as in table 1.2.

Table 1.2 Reasons for conducting Mixed Methods Research	
Rationale	Description
Triangulation	Better understand a research problem by converging results of two separate methods
Complementarity	Use one study segment to elaborate on another
Development	Use one study part as the basis for subsequent investigation
Initiation	Display results to find out paradox and contradiction by using different methods
Expansion	Investigates different facets of the theme by screening
Generality	Use the independent source of data to contextualize the main study or use quantitative analysis to supply significance of relative importance
Aid interpretation	Use qualitative data to explain quantitative variables
Solving a puzzle	Use an alternative data collection method when the initial method detects unexplainable results or deficient data

## RESEARCH DESIGN

This research will utilize **sequential exploratory** mixed methods design; the research involves *two sequential stages*, qualitative and quantitative stages as shown below in the figure 1.2

**Figure1.2: Sequential Explanatory mixed methods design**

## TARGET POPULATION AND SAMPLE

- Kuwait's total population reached 3,996,899 in 2014, with immigrants accounting for almost 69% (July 2014 est.) [Source: The World Factbook, available at: (<https://www.cia.gov/library/publications/the-world-factbook>)].
- The target population in this study will include Kuwaiti and non-Kuwaiti teachers, who are working in public and private schools at different stages in Kuwait.
- The total number of teachers in Kuwait who are working in public and private schools is (67895) teachers. Of these (35040) are non-Kuwaiti teachers and (32855) are Kuwaiti teachers. (Source: Kuwait Central Statistical Bureau, available at: [www.csb.gov.kw/Default\\_EN.aspx](http://www.csb.gov.kw/Default_EN.aspx)).

**Qualitative stage:** Seek to explore phenomena.

Krauss (2005) argued that qualitative research is based on a relativistic, constructivist ontology, which posits that there is no single reality, there are multiple realities constructed by human actors who experience phenomena of interest. Constructivist paradigm claims that truth is relative and that it is dependent on one's perspective, at this stage research is as an inductive researcher to build theory.

## DATA COLLECTION

The research will adopt a strategy of a case study method to collect qualitative data.

## JUSTIFICATION FOR USING A CASE STUDY

- Tellis (1997) suggested that the advantage of a case study is that it is often conducted from multi-perspectives, and indicated that in a multiple case studies, there is an opportunity for a replication of the one case study, as well as the flexibility to check and distinguish between a large range of results. The researcher can compare different groups of sample participants.
- Baxter and Jack (2008) argued that a researcher should use a case study once the boundaries do not seem to be clear between development and context. They also indicated that it prevents a researcher from manipulating the behavior of the study participants, and recommend that a multiple case studies provide flexibility to the researcher to explore variations among and between cases.
- Saunders et al. (2009) suggested that a case study provides the flexibility to answer open questions particularly, how why, and what.

## SAMPLING TECHNIQUE

Data will be collected by means of face-to-face and semi-structured interviews such as in-depth interviews and group interview using open-ended questions. Non-probability sampling method, a *self-selection sampling technique will be employed* to select (22) participants; twelve (12) teachers and ten (10) directors as well as supervisors and administrative working in public and private schools in Kuwait.

## DATA ANALYSES

MAXQDA software will be used to analyse the qualitative data.

**Quantitative stage:** Seek to validate findings of qualitative stage and generalize results.

The purpose of positivist or objectivist quantitative researcher is to discover general laws and find relationships between variables, the study will be conducted to test existing theories, then generate the findings to the population, the researcher is as a scientist and also as a deductive researcher to test existing theories. According to Krauss (2005), epistemological positivist holds that science is perceived as a way to find the truth and to understand the world well enough. Thus, we need to find the suitable scientific approach to understand the world and the universe that operate by laws of cause and effect.

## DATA COLLECTION

The research will employ the survey strategy to collect quantitative data. According to (Saunders et. al, 2008), a survey strategy is associated with the deductive approach used to answer who, what,



where, how much and how many questions, therefore, it can be used for exploratory and explanatory research. The main benefit of the survey it allows the researcher to collect a large amount of quantitative data from a sizeable population in a highly economical way, which can be analysed using descriptive and inferential statistics.

## **SAMPLING TECHNIQUE**

This research will employ a *random sampling method*, which is a type of a probability sampling technique. I have contacted the Ministry of Education in the state of Kuwait, and asked them to provide me with a list of the names of (5) public schools and (5) private schools to conduct my research.

## **SAMPLE SIZE**

According to (Israel, 1999) the minimum sample size can be calculated by using the following formula:  $n = p\% * q\% [z / e\%]^2$ . Where,  $n$  = minimum sample size required,  $Z$  the level of confidence,  $e\%$  = margin of error,  $P\%$  the proportion of the specified category  $q\%$  (1-p) proportion not belonging to specified category. Based on the assumption of  $p=.5$  and  $q=.5$ , and  $z$  value based on 95% confidence and 5% margin of error. Accordingly, the minimum sample size is shown below  $n = 50 * 50 * (0.154) n = 385$ . The minimum of 400 questionnaires will be considered, the increase of sample size to account for teachers who do not respond or who do not receive the survey invitation.

overall, (400) questionnaires will be distributed among teachers working in public and private schools in Kuwait.

## **MEASUREMENT SCALING**

The researcher will use the five- point Likert scale. Based on Mangal and Mangal (2013) the Likert scale is easy to read and respond and the reliability of this scale has been estimated relatively high than other types of measurement scales.

## **RESEARCH HYPOTHESES**

Research hypotheses will be formulated according to the results of the qualitative stage.

## MEASURING THE DEPENDENT VARIABLE (ETHICAL BEHAVIOUR)

Fraedrich (1993) argued that ethical behaviour in the workplace needs to be empirically measured by constructs that measure deviance from organizational standards. In addition, as summarized by Ludlum, Moskalionov and Ramachandran (2013), the dependent variable (ethical behaviour) will be measured by means of four items adopted from the scale of ethical behaviour verified by Deshpande, Joseph and Maximov (2006). Moreover, the questions of ethical behaviour, as shown in table 1.3, have been verified in many other projects including Ruch and Newstrom's ethics scale.

	Table 1.3: Workplace ethical behaviour questions / Source: Fraedrich (1993).	SD	D	N	A	SA
Beh1	Always I report the truth to my supervisor.					
Beh2	I never break school policy to do what is necessary.					
Beh3	My ethical behavior at work is mainly governed by my religious beliefs.					
Beh4	I don't alter things as documents, time cards, etc. in order to please my school.					

## DATA ANALYSES

SPSS version 22 will be employed to analyse the collected data by utilizing Factor analysis, Reliability analysis (Cronbach's Alpha correlation), linear regression analysis, correlation analysis, ANOVA and cross tabulation analysis.

## RESEARCH CONTRIBUTION

- This type of research is being conducted for the first time in the Kuwaiti schools.
- Based on Treviño and Brown (2004); Robertson et al. (2002); Elsayed-Elkhouly and Buda (1997); and Ali and Schaupp (1992), as summarized by Sidani and Thornberry (2010) this research will fill the gap in the area of ethics especially in the Arabic region.
- This research will differentiate a conceptual ethical behaviour framework valid for state of Kuwait to reinforce ethical behaviour in the workplace and combat unethical behaviour such as wasta.

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## LINKING ENTREPRENEURIAL ORIENTATION TO REPUTATIONAL RESOURCES

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### ABSTRACT

The main goal of this study is to analyze the influence of entrepreneurial orientation on reputational resources. Therefore, a quantitative methodological approach was used, conducting a descriptive, exploratory and transversal empirical study, having applied a questionnaire to a sample of Portuguese small and medium enterprises (SMEs).

Based on survey data from 42 firms, our empirical results indicate that globally entrepreneurial orientation have a positive and significant influence on reputational resources, and that the entrepreneurial orientation's dimension that most contribute to this is innovativeness.

**Keywords:** *entrepreneurial orientation, reputational resources, SMEs, Portuguese footwear industry.*

### INTRODUCTION

Entrepreneurial orientation is a strategic orientation of a company that encompasses specific entrepreneurs aspects such as style, methods and decision-making practices (Frank, Kessler and Fink, 2010), constituting a capacity that can attract resources to exploit opportunities (Alvarez and Busenitz, 2001). On the other hand, literature in the field of strategic management has focused on the intangible assets of firms have attracted considerable interest in organizational and strategy research (Barney, 1991). In particular, scholars have focused a great deal of attention on a subclass of intangible assets that is called "social approval assets" because they develop their value from favorable collective perceptions (Pfarrer, Pollock and Rindova, 2010).

The important intangible resources studied in this research are the reputational resources, since it helps distinguish firms from competitors (Peteraf, 1993), reduces information asymmetry, consumer uncertainty and substitutes expensive governance mechanisms. Moreover, reputation has been linked to organizational performance. Therefore, it appears to be a key variable to understand why some organizations outperform others (Boyd, Bergh and Ketchen Jr, 2010).

Building on well established theories, our research aims at exploring the influence of entrepreneurial orientation in reputational resources of Portuguese SMEs exporting footwear.

## **THEORETICAL FRAMEWORK AND HYPOTHESES**

### *Entrepreneurial orientation*

Entrepreneurial orientation emerged from entrepreneurship definition which suggests that a company's entrepreneurial degree can be measured by how it take risks, innovate and act proactively (Miller, 1983). Entrepreneurship is connected to new business and entrepreneurial orientation relates to the process of undertaking, namely, methods, practices and decision-making styles used to act entrepreneurially. Thus, the focus is not on the person but in the process of undertake (Wiklund, 2006).

Companies can be regarded as entrepreneurial entities and entrepreneurial behaviour can be part of its activities (Covin and Slevin, 1991). Entrepreneurial orientation emerges from a deliberate strategic choice, where new business opportunities can be successfully undertaken (Lumpkin and Dess, 1996). Thus, there is an entrepreneurial attitude mediating the vision and operations of an organization (Covin and Miles, 1999).

Several empirical studies indicate a positive correlation between entrepreneurial orientation and organizational growth (e.g. Miller, 1983; Covin and Slevin, 1991; Lumpkin and Dess, 1996; Wiklund, 2006; Davis, Bell, Payne and Kreiser, 2010; Frank, Kessler and Fink, 2010). Similarly, other studies also confirm that entrepreneurial orientation has a positive correlation with export's performance, enhancing business growth (e.g. Zahra and Garvis, 2000; Okpara, 2009).

The underlying theory of entrepreneurial orientation scale is based on the assumption that the entrepreneurial companies are different from the remaining (Kreiser, Marino and Weaver, 2002), since such are likely to take more risks, act more proactive in seeking new businesses and opportunities (Khandwalla, 1977; Mintzberg, 1973).

Entrepreneurial orientation has been characterized by certain constructs that represent organization's behaviour. Starting from the Miller (1983) definition, three dimensions were identified: innovativeness, proactiveness and risk-taking, which collectively increase companies' capacity to recognize and exploit market opportunities well ahead of competitors (Zahra and Garvis, 2000). However, Lumpkin and Dess (1996) propose two more dimensions to characterize and distinguish entrepreneurial process: competitive aggressiveness and autonomy. In this study only innovation, risk-taking and proactiveness will be considered, as they are the most consensual and used dimensions to measure entrepreneurial orientation (e.g. Covin and Miller, 2014; Covin and Slevin, 2005).  
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1989, 1991; Davis et al, 2010; Frank et al, 2010; Kreiser et al, 2002; Lisboa, Skarmeas and Lages, 2011; Miller, 1983; Okpara, 2009; Wiklund and Shepherd, 2005; Zahra and Covin, 1995; Zahra and Garvis, 2000).

#### *Reputational resources*

The new paradigm of today's world economy is characterized by the mobility of production resources and the ability to combine them in an efficient way. The strategic management research has recognized the importance of studying the companies' resources and capabilities and its usefulness to achieve competitive advantage. This perspective is consistent with the Resource-Based View (RBV).

Scholars argue that resources form the basis of firm strategies (Barney, 1991). Therefore, firm resources and strategy cooperate to create positive returns. Firms employ both tangible resources (such as physical infrastructures and financial resources) and intangible resources (like knowledge and brand equity) in the development and implementation of strategies. However, intangible resources are more likely than tangible resources to produce a competitive advantage, since they are often rare and socially complex, thereby making them difficult to imitate (Hitt, Bierman, Shimizu and Kochhar, 2001). Thus, intangible resources are considered strategic resources (Amit and Schoemaker, 1993).

Intangibles resources have three intrinsic characteristics that distinguish them from tangible resources (Molloy et al., 2011). First, intangibles do not deteriorate with use, since these resources are expected to confer benefits for an indeterminate period of time (Cohen, 2005). Secondly, multiple managers can use the intangibles resources simultaneously, for example, the use of a brand is available for all managers. Finally, the intangibles resources are immaterial, making them difficult to exchange, as they often cannot be separated from its' owner (Marr and Roos, 2005).

The existing literature suggests six types of resources that are particularly important sources of export venture competitive advantage: reputational resources; access to financial resources; human resources; cultural resources; relational resources; and, informational resources (Morgan et al., 2006).

The RBV describes reputation as an intangible resource that is consequent from combinations of internal investments and external evaluations (Shamsie, 2003). This "social approval assets" can positively impact customer behavior, loyalty and consumption experience (Cretu and Brodie, 2007; Pfarrer et al., 2010).

Reputational resources concern intangible image-based assets available to the firm and can be a differentiation factor in the target market (Hall, 1992). These resources must be understood as a source of competitive advantage, since they are rare, difficult to imitate and transfer and permeate the company's activity (Barney, 1991).

The most important reputational asset relevant to export performance identified in the literature is brand equity. This concept is associated to a set of assets linked to the name and symbol of the brand that adds value to the initial value of the product or service, such brand name awareness, distinctiveness of brand image, appeal of brand 'personality' and strength of brand image (Morgan et al., 2006). This valuable intangible resource allows the company to build and protect its market share, enhance marketing investments and introduce new products in the export target market more easily (Aaker, 2010).

Aaker (1991) identifies brand awareness as the potential customer ability to recognize that a brand has certain category. This recognition helps a brand to distinguish from others. Brand associations consist of brand-related thoughts, feelings, perceptions, smells, colors, music, images, experiences, beliefs and attitudes (Kotler and Keller, 2011). Brand loyalty is defined as the attachment that a customer has to a brand. Perceived quality can be defined as customers' judgment about a product's overall excellence or superiority. Consequently, perceived quality is a overall feeling about a brand and does not imply the actual quality of a product (Aaker, 1991).

Resources that are valuable, unique, and difficult to imitate can provide competitive advantages (Amit and Schoemaker 1993; Barney 1991). In turn, these advantages provide positive returns (Peteraf 1993). Thus, firms need to continually analyze and interpret changing market trends and quickly recognize new opportunities in order to create competitive products (Tzokas, Kim, Akbar and Al-Dajani, 2015), since it increases the engagement with innovation, which contributes, for example, to creating new products and services, seeking new opportunities and new markets (Miller 1983; Lumpkin and Dess, 1996). Ultimately, the following hypotheses is tested:

*H1: Entrepreneurial orientation influences positively reputational resources.*

## **METHODOLOGY**

### *Setting and Data Collection*

To test the hypothesis a sample of Portuguese footwear companies was used, that meet the following criteria: companies in which at least 50% of income comes from exports of goods, or companies in which at least 10% of income comes from exports of goods and the export value is higher than 150.000 Euros (INE, 2011).

Data collection was implemented through electronic questionnaire, associating a link to the survey that was online. To reduce misunderstandings, the questionnaire was validated by the research department of Portuguese Footwear, Components and Leather Goods Association (APICCAPS).



We were provided with a database of 231 companies (company name, telephone contact, email, economic activity classification, export markets, export intensity and capital origin). Only 167 companies fulfilled the parameters, and were contacted by email by APICCAPS to respond to the questionnaire. Subsequently, all companies were contacted by the authors via e-mail and telephone, to ensure a higher rate of valid responses. The questionnaires began on April 22, 2014 and ended on July 22, 2014. After finishing the data collection period, 42 valid questionnaires were received, representing a 25% response rate (Table 1). This response rate is considered quite satisfactory, given that the average of top management survey response rates are in the range of 15%-20% (Menon, Bharadwaj, Adidam and Edison, 1999).

Universe of analysis - Portuguese SMEs of footwear
Sample - a non-probabilistic and convenient
Population – 367 firms
Sample – 167 firms
Response rate – 25%
Valid responses - 42
Time period – April 22 to July 22 of 2014

Table 1. *Data summary*

In this investigation we chose a non-probabilistic and convenient sample since its respondents were chosen for being members of APICCAPS.

### *Measures*

For assessment of entrepreneurial orientation was used Covin and Slevin's scale (1989), that consists in nine items: three for innovativeness, three for proactiveness and three for risk-taking, having been used a five point Likert scale, where 1 means "strongly disagree" and 5 "strongly agree".

To measure the reputational resources this study used the four items scale proposed by Morgan, Vorhies and Schlegelmilch (2006). A five point Likert scale was used to measure each item, where 1 means "strongly disagree" and 5 "strongly agree".

## **RESULTS**

### *Reliability analysis*

In order to verify the reliability of overall variables we estimated the stability and internal consistency through Cronbach's alpha ( $\alpha$ ). Generally, an instrument or test is classified with appropriate reliability when  $\alpha$  is higher or equal to 0.70 (Nunnally, 1978). However, in some research scenarios in social sciences an  $\alpha$  of 0.60 is considered acceptable, as long as the results are interpreted with caution and the context is taken into account (DeVellis, 2012). For the present study we used the scale proposed by Pestana and Gageiro (2008).

The result of 0.801 achieved for all of variables is considered very good, confirming the sample's internal consistency. It was also conducted an internal consistency test for all variables in each construct to assess their reliability (Table 2).

Construct	Cronbach's $\alpha$	Items Nr.	N	Analysis
Entrepreneurial orientation	.739	9	42	Good
Reputational resources	.905	4	42	Excellent

Table 2. *Internal consistency test by construct (Cronbach's Alpha)*

We found that entrepreneurial orientation has good consistency and that reputational resources presents excellent reliability.

#### *Exploratory factor analysis*

We performed a factor analysis, with Varimax rotation, of entrepreneurial orientation construct items that comprise the scale, with the purpose of finding a solution that was more easily interpretable. Three factors were extracted and there was no need to delete items. Thus, we obtained a scale composed of 9 items, distributed over three factors that explain 77.09% of total variance, with 35.52% of variance explained by the first factor, *Proactiveness*, 27.48% for the second factor, *Innovativeness*, and 14.09% by the third factor, *Risk-taking*. Analyzing the internal consistency of the three factors, we found that Cronbach's Alphas have a good internal consistency. KMO test indicates that there is a reasonable correlation between the variables (0.695). Bartlett's sphericity test registered a value of  $\chi^2(36, N=42)=171.176$ ,  $p<0.05$ , therefore is confirmed that  $\chi^2>\chi_{0.95}^2$ , so the null hypothesis is rejected, i.e. the variables are correlated.

We performed a factor analysis, with Varimax rotation, of entrepreneurial orientation construct items that comprise the scale, with the purpose of finding a solution that was more easily interpretable. Three factors were extracted and there was no need to delete items. Thus, we obtained a scale composed of 4 items, distributed over one factor that explain 87.71% of total variance. The saturation of this factor varies between 0.695 e 0.819. Analyzing the internal consistency of these factor, we found that Cronbach's Alpha have an excellent internal consistency ( $\alpha=0.931$ ). KMO test indicates that there is a reasonable correlation between the variables (0.796). Bartlett's

sphericity test registered a value of  $\chi^2(210, N=42)=630.742$ ,  $p<0.05$ , therefore is confirmed that  $\chi^2>\chi_{0.95}^2$ , so the null hypothesis is rejected, i.e. the variables are correlated.

#### *Multiple regression analysis*

Multiple regression analysis is a statistical technique that is used to analyze the relationship between a single dependent (criterion) variable and several independent (predictor) variables. The objective of multiple regression analysis is to use the independent variables whose values are known to predict the single dependent value selected by the researcher. Each independent variable is weighted by the regression analysis procedure to ensure maximal prediction from the set of independent variables.

The most commonly used measure of predictive accuracy for the regression model is the coefficient of determination ( $R^2$ ). This coefficient measures the proportion of total variability that can be explained by regression ( $0 \leq R \leq 1$ ), measuring the effect of independent variables on the dependent variable. When  $R^2=0$  the model clearly does not adjust to data and when  $R^2=1$  the adjustment is perfect. In social sciences when  $R^2>0.500$  the adjustment is considered acceptable (Marôco, 2011). In the Table 3 we present the results of the multiple regression analysis of our model.

Model	R	R2	Adj. R2	Standard Error	F	Sig.
1	.533a	.284	.227	.87902684	5.021	.005*

a. Predictors: (Constante), Entrepreneurial orientation.

b. Dependent variable: Reputational resources.

\*  $p<0.05$ .

Table 3. *Summary and ANOVA of multiple regression analysis*<sup>b</sup>

The previous table presents for model 1 a value of  $F=5.021$ , with  $q\text{-value}<0.05$  (Sig.), so  $H_0$  is rejected in favour of  $H_1$ . Thus, this hypotheses is supported.

A mere comparison of the regression coefficients is not valid to evaluate the importance of each independent variable models, since these variables have different magnitudes. Thus, it is essential to use standard variables, known as Beta ( $\beta$ ) coefficients, in the models adjustment so that the independent variables can be compared.

Variables	Beta	Sig.
ENTREPRENEURIAL ORIENTATION		
Proactiveness	.120	n.s.
Innovativeness	.489	.000*
Risk-taking	.174	n.s.

\*  $p < 0.001$ .

n.s. – non significant.

a. Dependent variable: Reputational resources.

Table 4. *Standardized beta coefficient*<sup>a</sup>

Beta coefficient allows a direct comparison between coefficients as to their relative explanatory power of the dependent variable. Table 4 shows that the variables that have higher contribution to reputational resources is *Innovativeness* ( $\beta = 0.489$ ).

## DISCUSSION AND CONCLUSION

The main purpose of this study is to analyze the influence of entrepreneurial orientation on reputational resources. We conducted an empirical research based on a sample of 42 companies, which were applied a questionnaire in order to exploit data to test hypotheses, using proceedings and statistical techniques. It is important to note that companies evaluated entrepreneurial orientation and reputational resources relative to their major competitors in the export market(s), so the results should be interpreted based on these two aspects.

The Portuguese footwear industry faces considerable challenges, not only concerning the international markets crisis, but also regarding consumption patterns. The reduction of shoe design lifecycles has consequences on the offer. On one hand, the products have to be adapted to different segments specific needs and tastes (custom design, new models in small series, etc.), on the other hand, manufacture processes must be increasingly flexible, adopt just-in-time production, invest in the brand, qualified personnel, technology and innovation (APICCAPS, 2013).

This study demonstrated that the company's entrepreneurial orientation have a positive and significant influence on reputational resources, enhancing brand's notoriety, image distinctiveness, attractiveness of "personality" and image strength. These strong differentiation factors facilitate the development of existing products and/or introduce new products in foreign markets, thus following the market trends.

### *Theoretical and practical implications*

It is known that strategy includes deliberate and emergent initiatives adopted by management, comprising resource and capabilities use to improve business performance (Nag, Hambrick and Chen, 2007). The findings are a contribution to clarify the influence of entrepreneurial orientation on the company's reputational resources. This study also enabled a thorough analysis of a highly important

industry for national exports, such as footwear industry, allowing understanding that entrepreneurial orientation, as an industry strategic determinant, enhancing reputational resources.

In addition, the results provide guidance to business practitioners; because they indicate entrepreneurial orientation as a predictor for reputational resources. Companies are a bundle of resources and capabilities (Peteraf, 1993), it is essential to understand and identify which resources are relevant to gain competitive advantage and superior performance. In this study it is obvious the importance of entrepreneurial orientation to the firms' reputational resources. Business owners must be able to interpret, integrate and apply external knowledge in order to systematically analyze the changes that arise in their target market(s) and to incorporate this knowledge into their processes, to identify the present and future needs and market trends, anticipate changes in demand and seek new business opportunities.

By building on the literature of entrepreneurial orientation, absorptive capacity and reputational resources, this study aims to support the strategic development of business management policies designed to increase firms' performance in foreign markets and add value to the current context of change.

#### *Research limitations*

The main limitation of this study is related to the sample size, since it was difficult to find companies with the willingness to collaborate in this type of research. The sample is non-probabilistic and convenience and cannot be used to infer to the general population. The study findings should therefore be analyzed with caution.

The fact that the research does not consider the effect of control variables such as size, age, location and target market of the respondents can be seen as a limitation.

Finally, the fact that this study considered only reputational resources as an intangible resources can also be appointed as a limitation.

#### *Future Lines of Research*

In future work, we suggest that the model is used in a sample with a higher number of observations to confirm these results.

We further suggest pursuing with the investigation of strategic management in Portugal, focusing in other sectors of national economy, so that in the future one can make a comparison with similar studies, allowing realizing and finding new factors that enhance absorptive capacity.

Finally, the moderating effect of strategic variables (e.g. competitive advantage) in the relationship between entrepreneurial orientation and reputational resources should be studied.

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## FORMATION OF CORPORATE INTRAPRENEURSHIP SYSTEM AFTER COUNTRY'S TRANSITION TO MARKET ECONOMY: RUSSIAN CASE

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### ABSTRACT

This paper is devoted to the problem of corporate entrepreneurship and intrapreneurship implementation in Russia in order to increase efficiency and labor productivity after the country's transition to the market economy. Existing definitions of corporate entrepreneurship and intrapreneurship, including Russian scientists' points of view, are systematized. New definitions and attitudes such as entrepreneurial potential and intrapreneurial unit (CI-unit) are offered. We assume that traditional business activity forms (with a high level of centralization in the former USSR) were not adequate to market economy conditions (with competitiveness, innovations, etc.). The purpose of the paper is to resolve this contradiction. In accordance with the author's concept the methodology of corporate intrapreneurship system (CI-system) formation (for building construction industry enterprises) under the market conditions is developed. The CI-system consists of some blocs, among them the mechanism of CI-unit creation, method of planning (balancing plan) between a head company and CI-units. The novelty of the methodology includes not only the general concept of internal corporate entrepreneurship system forming, but also such elements as analysis of entrepreneurial potential, formation of the economic, organizational and contractual relationship between a base company and the CI-units and some others. Its implementation will provide the gradual transformation of traditional enterprises into enterprises of an innovative-entrepreneurial type under the market conditions. Such system improves the efficiency of business activities and the level of competitiveness of enterprise and structural units within the enterprise. The Russian building construction business sector is taken as an example.

**Keywords:** *corporate entrepreneurship, intrapreneurship system, intrapreneurial unit (CI-unit), market economy, organizational structure transformation, competitiveness, Russian construction industry enterprises*



## INTRODUCTION

At the end of XX and early XXI century the Russian economy became a market one. Significant changes occurred in the national economy after the disintegration of the USSR. One of the peculiarities of the market economy system is the emergence of global competitors and innovative forms of business activities. But as for Russian companies the forms of their business activity remain as they were before (Bagiev G. L. & Asaul A. N., 2001; Frolova, E. & Kuprina T., 2013; Gerchikova, I., 2002). The contradiction between modern market conditions on the one hand and old (Soviet system of total planning) forms of business activities on the other hand has to be eliminated. Conditions of market transformation of the country' economy required rapid creation (accelerated formation) and introduction of the newest methods and forms of management including at the intercompany' or corporation' level.

Our hypothesis is as follows. In the conditions of increasing competition the efficiency of the enterprise' activity depends on its organizational structure which corresponds to changing external market conditions. As we know, the main element of the market economy mechanism is competition. This mechanism operates at the level of global and national markets (outside the business). Customers choose competitive products, services. To be competitive means the ability to offer new products, services, new quality. This new product is primarily based on innovation. We have proposed to move the system of competition inside enterprises where internal units (sometimes with the same specialization) compete with each other. We developed to use the system of corporate entrepreneurship (CE-system) to be used in Russian companies.

However, we come to the following conclusions in this article. Features of the market economy development are due to the necessity of the corporate entrepreneurship system application. Corporate entrepreneurship is the initiative activity for the production and sale of products, goods and services based on innovation. But it is not enough. In management literature, scientists are paying increased attention to the topic of «corporate entrepreneurship» (CE) but not «corporate (firm') intrapreneurship» (CI). CI-system is based on the integration of the resources of head (parent) company, on one hand, and leadership and innovative ideas of an entrepreneur, on the other hand. The CI-system objective is to increase the level of competition and efficiency within the enterprise. At the same time, the CI-system will function effectively only under certain conditions: the presence of a contract and balanced (coordinated) plan, allocation of resources, responsibility, etc. For the development of new forms of corporate entrepreneurship it is necessary to rethink and systematize the existing approaches to corporate entrepreneurship through the prism of creating an internal competitive environment within an enterprise.

The purpose of this article is to clarify the interpretation of the term "corporate intrapreneurship" and compare with the term «corporate entrepreneurship» and offer a new methodology of the CI-system formation and demonstrate national experience. As for practical applications it is necessary to develop an algorithm of CI-system and CI-units creation and offer recommendations for companies.

## **CORPORATE ENTREPRENEURSHIP AND INTRAPRENEURSHIP: THEORETICAL ASPECT**

Entrepreneurship is a global complex phenomenon and paradox. The Schumpeter' definition is well known but there is no universally acceptable definition of entrepreneurship yet. In wide essence, it is understood as any attempt of starting-up a new business in the form of self-employment, the expansion of an existing business by an individual, teams or existing company, etc.

This paper focuses on the corporate entrepreneurship (CE). Corporate entrepreneurship is a developing area of research and there are many definitions of CE (Baierl, R. & Gross, U. (2015); Ferreira, J. (2002); Satle, V. (2003); Suhartanto, E.; Shukla, S. etc.). Ferreira J. (2002) emphasizes that authors use many terms such as: «intrapreneurship», «internal corporate entrepreneurship», «corporate ventures», «venture management», «internal corporate venturing». A lot of scientific articles (Branchet, B. & Kruzikova, A., 2015; SME in Russia, 2013; Ferreira, J., 2002; Mirzanti, R. & Simatupang, T. & Larso D., 2015; Poorva, R., 2010 Ration, J. etc.) focus on the different aspects of corporate entrepreneurship, among them: relationship between corporate entrepreneurship and strategic management; distinction between the concepts of corporate entrepreneurship and an entrepreneurial strategy; magnitude of entrepreneurship influence across countries and regions; small and medium-sized enterprise (SME) sector; entrepreneurship capital; entrepreneurship policy implementation model in different countries, including Russia; financial aspect etc.

After literature analysis we can conclude that there are a lot of types of CE. Some of new definitions contradict with each other but we do not consider some of them as incorrect. All proposals reflect the author's concept and clarify the essence of corporate entrepreneurship from new perspectives under the new market conditions. For example, corporate entrepreneurship activities can be internally<sup>1</sup> or externally<sup>2</sup>

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<sup>1</sup> Internal activities are typified as the development within a large organization of internal markets and relatively small and independent units designed to create internal test-markets or expand improved or innovative staff services, technologies, or production methods within the organization (Ferreira, J., 2002)

<sup>2</sup> External entrepreneurship can be defined as the first phenomenon that consists of the process of combining resources dispersed in the environment by individual entrepreneurs with his/her own unique resources to create a new resource combination independent of all others. External efforts entail mergers, joint ventures, corporate venture, venture nurturing, venture spin-off and others (Ferreira, J., 2002)

oriented, independent (Satle, V., 2003). According to Ferreira, J. (2002); there are three types of corporate entrepreneurship:

- first is the creation of new business within an existing organization (intrapreneurship);
- second is the more pervasive activity associated with the transformation or renewal of existing organizations;
- third is the enterprise changing the rules of competition for its industry.

It is important for us to understand any differences between different types of entrepreneurship because Russia has revived the system of entrepreneurship at the beginning of XXI century (table 1), but old methods do not contribute to the further development of the country.

Table 1 – Small business in Russia (fragment)

	1999	2000	2001	2009	2011
Number of small business, thousand units	868,0	890,6	879,3	1602,5	1836,4
Average number of employees, thousand people	6485,8	6596,8	6483,5	11192,9	11480,5
Revenues, bln rubles	423,7	613,7	852,7	22546,4	22617,1

Cit. by (Frolova, E. & Kuprina T., 2013)

Russia is in the process of transition to a postindustrial society. The strategy of the socio-economic development of Russia until 2020 provides the transition of the country's economy based on the raw materials trend to the development innovation. We have to develop new competitive sectors. We need new methods for further development of entrepreneurship and business (Bagiev G. L. & Asaul A. N. , 2001; Frolova, E. et al., 2004). As we could see, CE includes the actions of internal entrepreneurs (intrapreneurship). Especially, we are interested in «corporate entrepreneurship» and «corporate intrapreneurship». We have accumulated the scholars' opinions in table 2.

Table 2 – The key characteristics of definitions «corporate entrepreneurship» and «corporate intrapreneurship»: comparative analysis (fragment)

Notion	Corporate entrepreneurship and managers	Corporate intrapreneurship and intrapreneur
Essence of notion and skills of managers	It can be describes as any attempt to implement innovation and refers to the process of creating new business within established firms to improve organizational profitability and enhance a firm's competitive position or the strategic renewal of existing business (redefinition of the	It is integration of entrepreneurial skills (local initiative) and firm' recourses' opportunity (central synthesis) Interpreneurial managers. Intrapreneur: - is a person who focuses on innovation and who transforms a dream or an idea into a profitable venture within the existing company; - is both employee, valuable worker and leader;

	business concept, reorganization, introduction of system-wide changes for innovation, refocusing a business competitiveness). Traditional managers. Managers consider more risks than uncertainty and often work within established patterns	- is also dreamer, thinker, doer, planner; - focuses on innovation and creativity, and transforms an idea into a profitable venture; - is who take hands-on responsibility for creating innovation of any kind, within a business; -is a person within a large corporation who takes direct responsibility for turning an idea into a profitable finished product through assertive risk-taking and innovation (according to the American Heritage Dictionary) Strong leadership skills are needed to strengthen teams and execute their ideas. Leadership skills are also important to support rapid decision making under uncertainty
Organizational aspect of implementation	New business (firm, venture, department) creation as usual	It is a project which operates within established organizations (organizational environment) as well as having a certain economic independence. Analogue to new business creation by individual entrepreneurs,
Recourses	Special equipment	Intrapreneur typically finds a ready source of «free» recourses and capabilities within the organization
Limits	It acts according to legislation and law (external limits)	Intrapreneur should ask for permission before acting according to internal rules (internal limits)
Competition	External competition	Internal competition
Common peculiarities	Companies support intrapreneurs with finance and access to corporate resources, while he/she creates innovation for companies. The basis of development is innovations of different kinds. It is transformation of the firm from the old to the new one. It is integration of risk-taking and innovation approaches	

Compiled by authors according to: Sekliuckiene, J. & Morkertaite, R. & Kumpikaite, V., 2015; Shukla, S., 2013; Suhartanto, E.; Satle, V., 2003; Ramachandran, K. & Devarajan, T. & Ray. S; Raheel, A., 2009; Ration, J., 2009; Poorva, R., 2010;

Thus, internal entrepreneurship is an activity for the production and sale of goods and services through the integration of entrepreneurial opportunities and the individual resources of the enterprise. Based on the above-mentioned, we offer the author's interpretation of basic concepts (Frolova, E. et al., 2004; Vlasova, M. et al., 2014).

1. Intrapreneurship is a special form of corporate entrepreneurial activity which operates in the framework of the existing enterprise (small or large) and its resource base, on the one hand, and actively uses the initiative and creative potential of employees, on the other hand. Intrapreneurship aims to accelerate the implementation of innovation, the creation of an internal competitive environment, generating additional revenue, the creation and effective usage of intellectual property. It allows us to increase the value and competitiveness of the enterprise.

2. The enterprise in which the entrepreneurial activity takes place is the base or head company (HC) to the inner intrapreneur and is the innovative one in the relation to the external environment
3. CI-unit is a structural subdivision of an enterprise, temporary or permanent, acting on the basis of internal regulations of the unit and performing a specific entrepreneurial idea, as well as having a certain economic independence
4. Entrepreneurial potential is a complex of resource, organizational, methodological, socio-psychological and economic prerequisites and conditions for the formation of the system of entrepreneurship in the company

## METHODOLOGY OF THE CORPORATE INTRAPRENEURSHIP SYSTEM FORMATION IN THE MARKET CONDITIONS FOR THE CONSTRUCTION INDUSTRY ENTERPRISES

The author's algorithm of the corporate intrapreneurship system (CI-system) formation is shown in figure 1. Its implementation in the enterprises will provide the gradual transformation of traditional enterprises into the enterprise of innovative-entrepreneurial type under the market conditions. Such system improves the efficiency of business activities and the level of competitiveness of enterprise and structural units within the enterprise. The methodology includes not only the general concept of internal corporate entrepreneurship system forming, but also such elements as analysis of the entrepreneurial potential, formation of the economic, organizational and contractual relationship between the base company and the internal corporate intrapreneurial units (CI-units) and some others.

Phase 1: intrapreneurial potential analysis of enterprise	Step 1.1: to analyze recourses' prerequisites and conditions (labor recourses, information recourses, financial recourses etc.) in the market conditions
	Step 1.2: to analyze economic and organizational prerequisites and conditions
	Step 1.3: to analyze methodical prerequisites and conditions
	Step 1.4: to analyze socio-psychological prerequisites and conditions
↓	
Phase 2: formation of economic, organizational and contractual relationship between 1 intrapreneurial units (CI-units) and head company (HC)	Step 2.1: to establish the procedure of recourses providing and payment between CI-units and HC for their using
	Step 2.2: to determine the prices of products, services manufactured by CI-units
	Step 2.3: to determine the price for management and administrative services, accounting, engineering etc., providing by HC' departments
	Step 2.4: to develop the (re)distribution of revenue, profit, payment of taxes of CI-units
	Step 2.5: to develop a stimulation system of HC' managers for the support of CI-units activities, innovative ideas and results
↓	
Phase 3: realization	Step 3.1: to improve the organizational structure of HC
	Step 3.2: to establish the centre of internal entrepreneurship (for consulting and

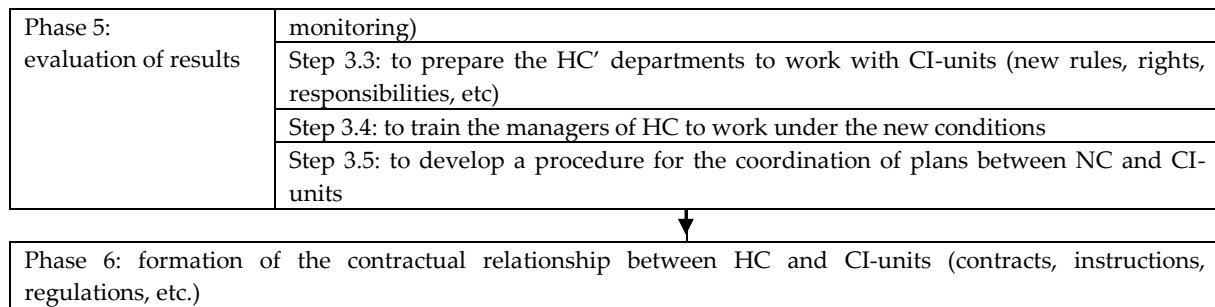


Fig. 1. Algorithm of internal corporate entrepreneurship system formation for construction industry enterprises

There is a necessity to clarify some phases (Vlasova, M. et al., 2014). *Firstly*, according to the model of recourses providing there are three options of CI-unit (step 2.1): autonomous organization (resources belong only to the CI-unit); joint organization (HC and CI-unit use resources together according to the contract); the lack of fixed resources on a permanent basis in constant use (an entrepreneur is a single permanent element of an CI-unit and he/she sells labor recourses with «know-how»). *Secondly*, as for the stimulation system of HC' managers (step 2.5) it depends on additional hours or performs additional functions and is determined in percentage from the amount of income of the company and contribution from the manager. *Thirdly*, the main objectives of ICE-units activities are accelerated development, introduction of innovations, strengthening the competitive advantages of the company, in these conditions the most suitable organizational structures (step 3.1) are matrix or project management ones. In addition, it is proposed to establish a special engineering and consulting unit - the centre of intrapreneurship which will assist in the organization of the entrepreneurial process, business planning, etc. *Fourthly*, some words about the methods of the CI-units creation. It consists of several steps (fig. 2), including generation of the innovative entrepreneurial idea, analysis of the possibility of its realization, development of organizational and business plans.

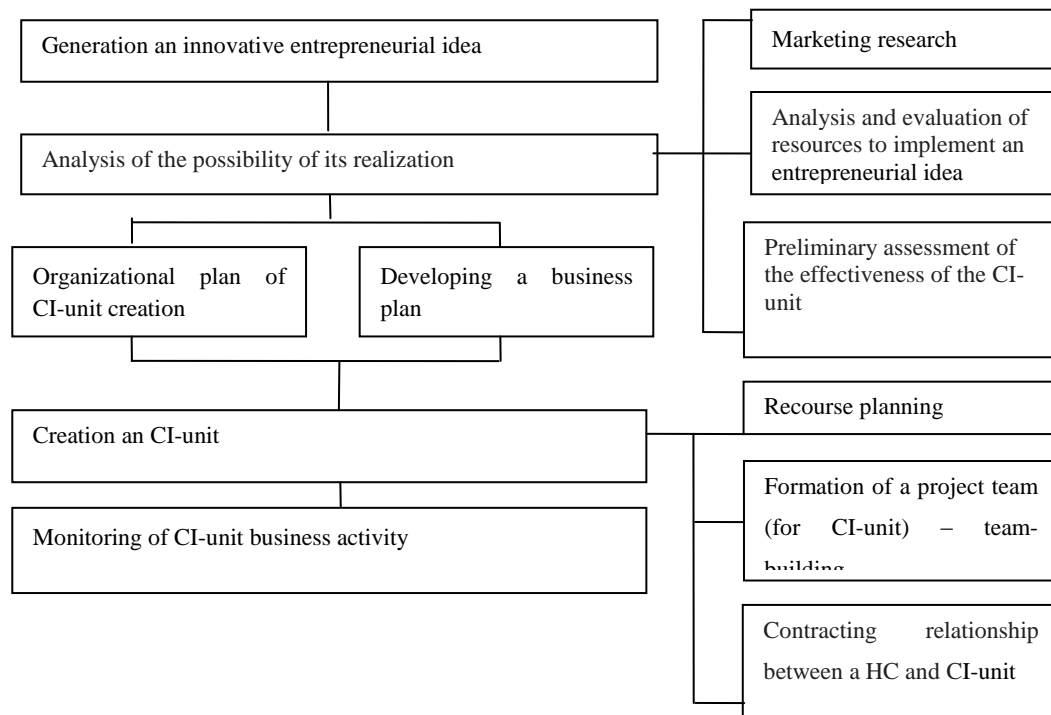


Fig. 2. Mechanism of CE-unit) creation

Finally, about planning between HC and CI-units. The plans of the HC and each CI-unit must be aligned with each other (as well as the plans between CI-units). Methodical difficulty lies in the fact that, on the one hand, each CI-unit must have operational independence, and, on the other hand, be coordinated with all decisions taken by the HC. There is a need to design a two-level system. The upper level is the level of HC (general management, overall allocation of resources). The lower level is the level of individual CI-units (planning business activities). For optimal planning model we propose to use the Kornai-Liptak (Cit. by Vlasova, M. et al. 2014) decomposition method. It allows us to link the particular solutions (CI-unit level) with the overall optimum position

## THE RESULTS OF IMPLEMENTATION OF CI-UNITS CREATION METHODOLOGY

The author's methodology of CI-system creation was implemented in building construction company "Premier-Stroy" (HC). On the base of HC' recourses there was established two CI-units. In accordance with the main stages of the methodology the following results were obtained (on example of one CI-unit).

Analysis of an entrepreneurial idea. The essence of an entrepreneurial idea is to produce new building construction materials.

Analysis and assessment of the resources needed to implement this idea. The analysis showed that HC has the equipment, workers and managers' staff, office, warehouses, etc. However, these resources are not used at maximum capacity or are not used, including a reserve of 400 sq. m.

Resources providing. In order to give resources to the CI-units a combined method was approved:

- during the first year some resources were provided to HC free of charge;
- HC provided the CI-unit a loan of 1,5 mln. rubles for the purchase of equipment;
- as for machinery complex HC and CI-units used it together on the basis of the lease contract.

Team-building:

- the number of full-time employees (staff) of the CI-unit was 18;
- annual Wage Fund of the CI-unit' staff was 3,3 mln. Rubles;
- head of the CI-unit is entrepreneur himself

Organizational design. For the contractual relationship between HC and CI-unit the following model was adopted:

- project management (matrix) organizational structure;
- CI-unit is an independent entity with a stable staff;
- HC' departments of supply and sales of the company performed supply and sales function

for the CI-unit

Finally, a business plan was developed. The results and planned indicators were identical (table. 3). In accordance with the signed contracts the CI-unit paid for HC' managerial services and a part of the profits (as dividends)

Table 3 - Final financial results of CI-unit's activity

Indicators	Indicators (prices of 2005)
Output per year without VAT (RBL, mln)	50,1
Costs of production (RBL, mln)	37,9
Profit (RBL, mln)	12,2
Tax on profit (RBL, mln)	2,9
Net profit (RBL, mln)	9,3

The company has received the following results (table. 3) by CI-system' creating (табл. 4).

Table 4 - Economic indicators of activity at the enterprise after the CI-system' implementation

Indicators	HC	CI-unit
Capital productivity (rbl/rbl)	16,4	20,1
Labor productivity (RBL per employee)	2,205	2,780
Profitability of output (%)	19,0	32,1
Profitability of sales (%)	16,0	24,3
Employee turnover	0.334	0.055
Average annual wage (RBL per employee)	157,2	182,3



In addition to these indicators, the increase of the production volume of the HC through the establishment of two CI-units was 32.9%, a reduction of the material was 17%. In this case, both quantitative and qualitative indicators have changed (table.5).

Table 5 - The main effects of the CI-system' implementation

Effect	HC	CI-unit
Social effect	<ul style="list-style-type: none"> <li>- consolidation of staff with creative potential</li> <li>- improvement of socio-psychological climate at the enterprise</li> <li>- improvement of the external image of the company</li> </ul>	Improvement of the social status of the entrepreneur
		Improvement of the social status of the entrepreneurial team
Economic effect	<ul style="list-style-type: none"> <li>- growth of business value</li> <li>- generation of additional profit</li> <li>- emergence and usage of intellectual property</li> </ul>	Revenue from innovations and an entrepreneurial idea

## CONCLUSIONS

In the post-Soviet era Russian enterprises began to operate under the market conditions. Old methods of business were not suitable for new conditions. In spite of world economy decreasing large corporations and small firms demonstrated the new strategy of business development: they said «innovation or death» and called new methodology as an entrepreneurship. Much has been written about entrepreneurship, new business creation, «new business product» orientation, competitiveness, etc. A lot of types of corporate entrepreneurship were offered by scholars and managers.

In this article we have clarified the essence of the term "corporate intrapreneurship" and «corporate entrepreneurship». It could be concluded that some small and large companies used and use just now in transition economy such type of entrepreneurship as corporate intrapreneurship. We conclude that the CI-system is based on the integration of the resources of head company, on the one hand, and leadership and innovative ideas of an entrepreneur, on the other hand.

Intrapreneurship is a special form of corporate entrepreneurial activity which operates in the framework of the existing enterprise (small or large) and its resource base, on the one hand, and actively uses the initiative and creative potential of employees, on the other hand. Intrapreneurship aims to accelerate the implementation of innovation, the creation of an internal competitive environment, generating additional revenue, the creation and effective usage of intellectual property. The author's methodology of CI-system creation for building construction business consists of some blocs, among them the mechanism of CI-unit creation, method of planning (balanced plan) between a HC company and CI-units, method of motivation. Our methodology includes general concept of internal corporate entrepreneurship (intrapreneurship) system forming, analysis of entrepreneurial

potential, formation of the economic, organizational and contractual relationships between a HC and the CI-unit and some others.

Implementation of this methodology will provide the gradual transformation of traditional enterprises into enterprises of an innovative-entrepreneurial type under the market conditions. As for practical applications the two Russian building construction companies improved the efficiency of their business activities and the level of competitiveness of the enterprise due to implementation of the CI-system.

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## PROFITABILITY OF ITALIAN COOPERATIVES: THE IMPACT OF GEOGRAPHICAL AREA AND BUSINESS SECTORS<sup>1</sup>

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### ABSTRACT

This paper focuses on the situation in Italy with specific reference to cooperatives. It aims to analyse their economic situation - represented by two profitability ratios (ROI, ROE) - during the decade 2004-2013, that is before, during and after the crisis. Specifically, after an exploratory study, it wants to verify if there are statistically significant differences caused by geographical area and/or belonging business sector. With these aims and starting from secondary data on AIDA database (at the end 1,446 cooperatives), the trend analysis and analysis of variance (ANOVA) have been used. The findings show, at first, that the profitability of cooperatives has a very negative trend in any geographic area and business sector. So it is strongly affected by crisis. Secondly, only the business sector affects the level of profitability. The analysis is interesting because income, in cooperatives, has a special meaning: it should in fact be added to benefiting members that are accounted for as “peculiar” management costs.

**Keywords:** *Italian Cooperatives; Global Crisis; Return on equity; Return on investment; Profitability ratios.*

### INTRODUCTION AND MOTIVATION: AIMS AND STRUCTURE OF THE PAPER

The study aims to analyse the economic situation - represented by two profitability ratios (ROI, ROE) - of the Italian cooperatives during the decade 2004-2013. The choice of period is not accidental, nor is irrelevant, given that it includes the previous years, concurrent or subsequent to the 2008 crisis. Although there are significant and widespread signs of economic recovery, the global crisis still affects many geographical areas. For this reason, a large number of studies are still related to the general economic crisis and its implications on companies. Using an extensive data set on corporate bond defaults in the US from 1866 to 2010, Giesecke et al. (2014) study the macroeconomic effects of bond market crises and contrast them with those resulting from banking crises. Even Gonzalez (2015) study

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<sup>1</sup>The paper is the result of a collaborative work. However it is possible to attribute to Floriana Fusco: research methodology, results and discussion. The other sections are of Guido Migliaccio.

the financial crisis and corporate debt maturity. De Fiore and Uhlig (2015) present a model explaining the evolving composition of corporate debt during the financial crisis of 2008-09. The topic of CSR and ethics in the economy is tackled by Simola (2014), Pirson and Turnbull (2015), Janssen et al. (2015). With regard to crisis management issue, Morel and Chauvin (2016) identify four methodological challenges. Topper and Lagadec (2013) aim to clarify why the crisis management world has profoundly changed and how the current understanding of crises and theoretical frameworks is becoming increasingly less adequate.

The crisis has had diversified effects, accordingly studies of business administration must necessarily orient themselves with analysis about individual geographical contexts, specific production sectors and different social forms (see, for example, Iwasaki, 2014; Jim and Shinde, 2015; Apostol et al., 2015; Cimini, 2015; Yang and Jiang, 2015). Looking at cooperatives, recent literature has stressed their higher resilience rather than others enterprise (Birchall and Ketilson, 2009; Allen and Maghimbi, 2009; Bajo and Roelants, 2011; Boone and Özcan, 2014; Roelants et al., 2012; Carini and Carpita, 2014).

As said, this study focuses on Italian cooperatives, first investigating, with an exploratory study, the trend, then verifying if there are statistically significant differences caused by geographical area and/or belonging business sector. In summary, two are the main research questions:

- 1) What was the trend of profitability in the last decade in the various Italian geographic areas and business sectors?
- 2) Are there differences statistically significant between groups? Or, in other terms, geographical areas and/or business sectors can affect the level of profitability?

In the following sections is presented a review of literature on cooperatives, highlighting especially the typical problems of management resulting from cooperative principles. Thereafter the methodology, results and implications are discussed.

## **THEORETICAL BACKGROUND**

Cooperative is a company tending to profit, albeit with 'social' objectives (Tessitore, 1968, 1973 and 1998; Zan, 1990).

Some authors emphasize above all the features of sociability of cooperative company that is preferable to the capitalist company (Matacena, 1990; Jossa, 2008).

Members cooperate if they have affordability that adds up to extra economic opportunities that have characterized the history of the Italian cooperative movement.

A recent line of research, still little explored and where this study fits, focuses on the resilience of cooperatives business model to the crisis (Birchall and Ketilson, 2009; Allen and Maghimbi, 2009;

Accornero and Marini, 2011; Bajo and Roelants, 2011; Boone and Özcan, 2014; Roelants et al., 2012; Carini and Carpita, 2014).

*The principles on cooperative and their effects on the management. Hint about Italian laws.*

The first principles were established in 1844 in Rochdale cooperative. Subsequently they were updated. The current principles were set up by the International Cooperative Alliance in 1995 (Vella, 2012; Migliaccio, 2012; Fusco and Migliaccio, 2015): free and voluntary membership, open to all individuals (principle of “open door”); democratic control of the members, who actively participate in decisions with equal rights, regardless of the capital injection and / or contribution (principle: one head, one vote) (Matacena, 1990; Jossa, 2008); member economic participation, contributing equally to the capital with a share that must be compensated with a limited interest (Pacciani, 1979 and 1982<sup>1-2</sup>); autonomy and independence of the organization; cooperation among cooperatives, to strengthen the movement (Panati, 1984; Roncaccioli, 1984; Zan, 1990; Rosa, 1982); interest in the local community (localism) (Percoco, 2012). The annual financial statements of cooperative societies has unique characteristics, especially because it must clearly indicate the relationship between members and society (Melis, 1983 and 1990; Mari, 1994; Congiu, 2009; Giordano, 2011; Belbello and Dili, 2010; Benni et al., 2005). Even the analysis of their financial statements must be conducted with specific criteria and indexes derived must be interpreted wisely (Matacena, 1991; Krasachat and Chimkul, 2009; Hong and Dong-Hyun, 2012; Chalomklang, 2010; Arimany, 2014; Kyriakopoulos et al., 2004).

General principles of cooperative societies have greatly influenced the civil and tax law of individual countries that, together with the possible availability of soft loans, have affected directly or indirectly the management of cooperatives.

Art. 45, first paragraph, of Italian constitution state: “the Republic recognizes the social function of cooperation of a mutuality nature and without purposes of private speculation. The law promotes and encourages them through the appropriate means and secures, through appropriate controls, the character and purposes”.

Numerous special laws encourage the formation of cooperatives.

The civil law is in the legislative decree No. 6 of 01.17.2003. The rationale of the law characterizes the “management service” to members who get better conditions than those of the market, eliminating the intermediary of other entrepreneurs and its profit.

Art. 2511 state that the definition of cooperative company is such only if with variable capital and mutual purpose (Ferri, 2011). In the law, the distinction between “mutually prevalent cooperatives” and other cooperatives: first enjoy all the facilities, with the remainder being excluded from tax advantages (Di Sabato, 2011)

The prevalent mutuality is characterized (art. 2512) to operate mainly to members (consumers or users) and using mainly the work performance of members and / or their contributions of goods or services. Companies must provide in the statutes (art. 2524) prohibiting the distribution of dividends and remuneration of financial instruments offered to the co-operators beyond certain limits. It is also enshrined in prohibiting the distribution of reserves between the shareholders and the obligation to devolution, the dissolution, the assets to mutual benefit funds for the promotion and development of cooperation.

## **THE ECONOMIC DYNAMIC OF COOPERATIVES: REBATES AND PROFIT**

The cooperative carries out an economic activity to satisfy the needs of its entrepreneur.

The entrepreneur can be any stakeholder.

The different nature of the entrepreneur changes the system cost-benefit: what is an “external” cost in the capitalist companies, in the cooperative is often the contribution of a member.

In it, there are distinctions between values obtained by customary exchanges and mutual. Among the items characteristics: the rebates, indivisible reserves and social loans.

First, the rebates that assume different characteristics (Bagnoli, 2008) the consumer cooperatives is the repayment of part of the price paid; in the productive integration is the remuneration the conferment. The cooperative acquires the goods/services of the member liquidating a deposit, unless the price paid to integrate with an adjustment payment at year end. The rebate is an economic benefit to the members who deliver. It is proportional to the contribution and not the paid-up capital. It is paid only when there is distributable income.

The distribution of income is therefore limited by one of the fundamental principles of cooperation which also prohibits the distribution of self-financing at the time of dissolution.

The laws of various states apply this general principle by reducing the supply of profits. They often state that a portion must be allocated to a reserve and also to a dedicated mutual fund to be disbursed to other cooperatives. special tax breaks are also sometimes obtained only by limiting the distribution of current profits and reserves at the time of dissolution.

Laws that prevent the subscription of capital are elements of discrimination between members. The richest members may prevail: the capital must instead keep the same instrumental function of external funding. Then the capital must be paid as loans: the profit has to be almost equal to the interest on the current market. The members then subscribe little capital. Financial contributions to public entities are therefore required to start up. Passed the start-up phase, unfortunately, the cooperative is often financially weak because the members do not want self-financing for the obligation to allocate the company's assets to third parties, once the company will be dissolved. This ban was imposed because

the interest of the shareholders must be linked exclusively to the use of cooperative's services and not to its assets.

In capitalist societies the annual income is considered the first indicator of the economy of the company and therefore of its concrete ability to last over time. In cooperative societies, however, income in the financial statements provides very different guidance. In capitalist society the ROE is a key index often compared with that of fair remuneration in order to establish the convenience to start or to prolong the life of a company. In cooperative societies, the Roe, however, may not have the same indicative power: Net income is not the actual profit, because a part of it may have been already attributed to members and therefore accounted for as cost. properly, It has much more to deal with the current cost of borrowing in the market because many laws engage the cooperative income at that level.

The Roi has a very different indicative function in various types of society: in the cooperative, in fact, the cost of acquisition of goods, materials and / or services from members includes part of the profit. Its interpretation must therefore also consider the odds added that rebate to members.

Aware of these limits, however, it is advisable to check the earnings performance of the Italian cooperatives in the period considered. Further research will facilitate, in the future, a more complete interpretation of the phenomenon.

## RESEARCH METHODOLOGY

### *Data collection and sample characteristics*

The study fits into quantitative research, based on secondary data sourced by AIDA database. It replies the methodology of a previous work on financial structure of Italian cooperatives (Fusco and Migliaccio, 2015), with the aim to assessing if the discriminating factors chosen also affect the economic performance. The economic situation is represented by two ratios, Return On Investment (ROI) - that is *operating income/investment* - and Return On Equity (ROE), i.e. *net income/equity*. The choice is because they surely are the most relevant and widespread economic, or better profitability, ratios. Initially, the entire population of Italian cooperatives in the AIDA database (14,065 cooperative firms) was considered.

The period considered was the last decade, i.e. 2004-2013.

Therefore, the subsequent analysis was restricted to the cooperatives where both ratios over ten-year period were available.

The final sample was therefore made up of 1,446 cooperatives.

The geographic site of headquarters has been used as proxy to represent the belonging geographic area; while the statistical classification of economic activities in the European Community (NACE Rev.

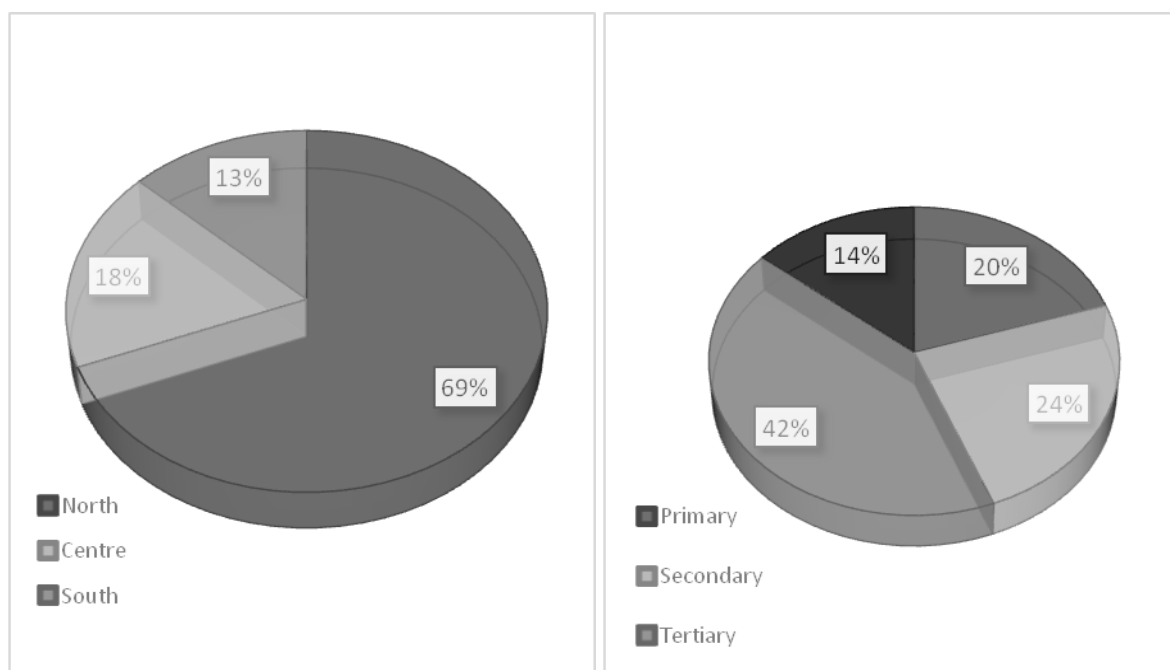


2 codes) has been used to identifying the belonging business sector. Then three groups (North, Centre and South) are identified according to first factor and four groups (Primary, Secondary, Tertiary and Advanced tertiary) according to the second one. According to conventional classification, the northern Italian regions are Valle d'Aosta, Piemonte, Liguria, Emilia-Romagna, Lombardia, Trentino-Alto Adige, Veneto and Friuli-Venezia Giulia; the central ones are Toscana, Umbria, Marche and Lazio and the southern ones are Campania, Abruzzo, Molise, Puglia, Basilica and the islands Sicilia and Sardegna. With The regard to business sectors, this allocation is used:

- Primary sector: agriculture, forestry and fishing; Mining and quarrying;
- Secondary sector: manufacturing and construction;
- Tertiary sector: Electricity, gas, steam and air conditioning supply; Water supply, sewerage, waste management and remediation activities; Wholesale and retail trade; repair of motor vehicles and motorcycles; Accommodation and food service activities; Transportation and storage; Education; Human health and social work activities; Arts, entertainment and recreation; Other service activities.
- Advanced Tertiary sector: Information and communication; Financial and insurance activities; Real estate activities; Professional, scientific and technical activities; Administrative and support service activities.

The characteristics of the sample are shown in Figures 1a and 1b.

**Figures 1a and 1b: sample characteristics**



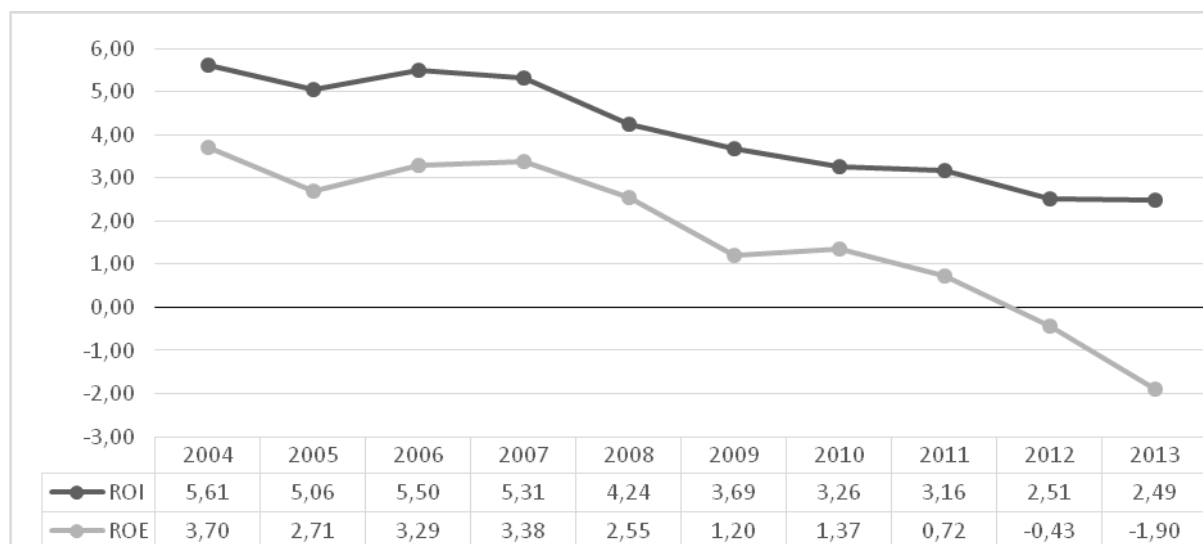
*Method*

First, ratios trends are analysed, according to descriptive and exploratory approach. Successfully the analysis of variance (ANOVA) is used to verify how the two discriminating factor affect the profitability or, in other words, if the observed differences are statistically significant. In fact, ANOVA tests hypothesis that the means of two or more populations are equal. ANOVAs assess the importance of one or more factors by comparing the response variable means at the different factor levels. The null hypothesis states that all population means (factor level means) are equal while the alternative hypothesis states that at least one is different. In our case, the dependent variables were the ratios considered and factors or independent variables were the geographic localization and the business sector. In this work, the two factors are considered separately, so ANOVA one-way has been chosen.

## RESULTS AND DISCUSSION

The analysis of the overall trend - which takes into account the annual average of the sample - reveals a rather negative situation. Both ratios have a declining path and almost parallel with the ROI is always kept at about + 2 percentage points above the ROE. The gap is expanding in the last period in which the return on equity falls to peak and becomes negative, while the ROI, although with modest values, try a slight recovery. The smaller ROE as well as its largest decrease could be found among the leading causes partial ban on the distribution of profits established by law (art. 2524 cc) of profits.

**Figure 2: Overall ratios trend between 2004 and 2013**

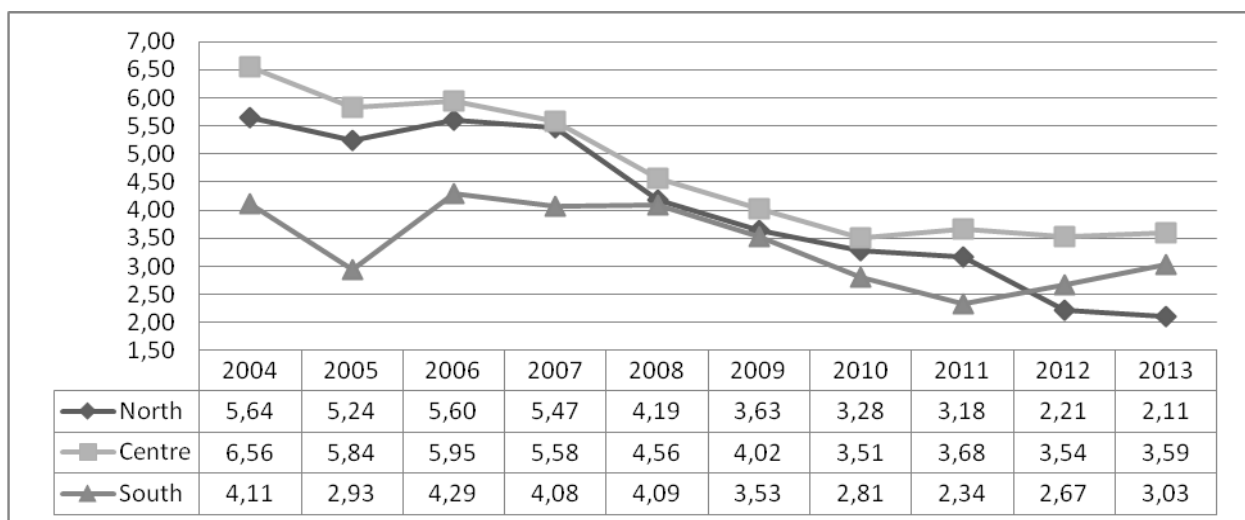


A similar situation can be found in the figures relating to different groups (see fig. 3-6). The trend is for each one falling, albeit with different intensities. However, it is not surprising, given that in the decade considered there was (and it is not totally finished) a global economic and financial crisis. With regard to the ROI, it is possible to verify that the groups with a higher rate have suffered, generally, a larger decline in the decade. Table 3, indeed, marks a clear decrease for the North and for the Centre (respectively 63% and 45%) and a smaller reduction for the South (26%), with the obvious

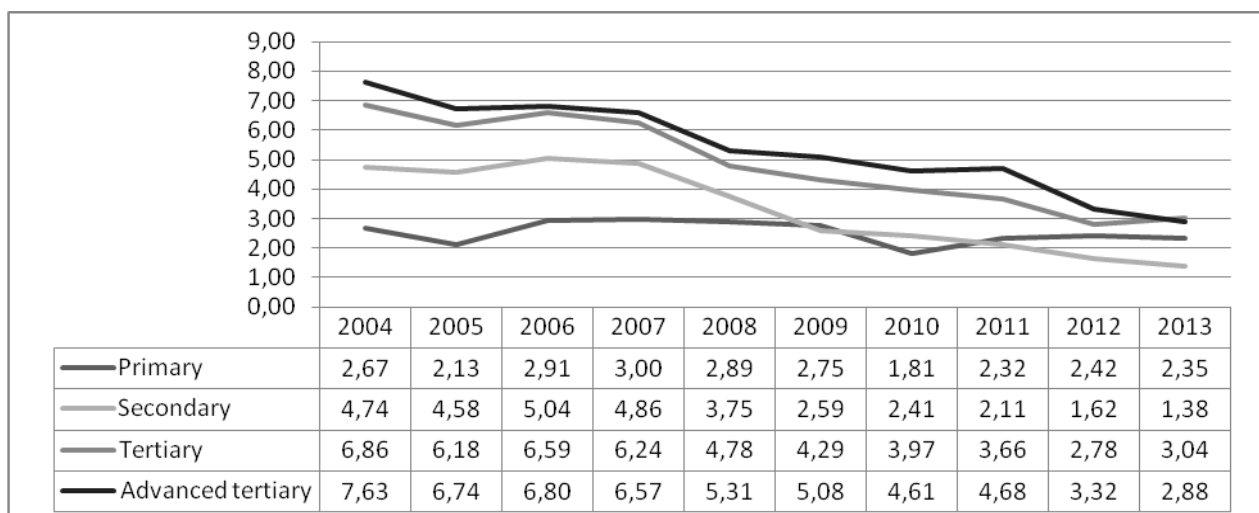
consequence of a thinning of the gap between groups. The first two groups are similar trends, with strong peaks downward since 2008 as a result of the crisis and the subsequent recession. Only in the last two years, the gap is more evident because of an abnormal reduction of 30% in the North. A more "independent" and fluctuating trend is to the third group, the South, marked by different peaks, both positive and negative.

Looking at the different businesses, table 4 shows an almost constant trend of ROI relative to the primary sector, with a decrease of about 12%, while there is a decrease of 62% in the advanced tertiary. Disaggregate data highlight that the businesses mainly negatively affect the trend are the financial and insurance activities and construction sector, with a decrease of 80% and 83%, but also the ICT sector, usually considering one of the most profitability, has a strong reduction (about 48%). Anyway, the downward trend is widespread, only the accommodation and food service business and utilities record an increase.

**Figure 3: Trend of Return on Investment (ROI) according to geographic localization**

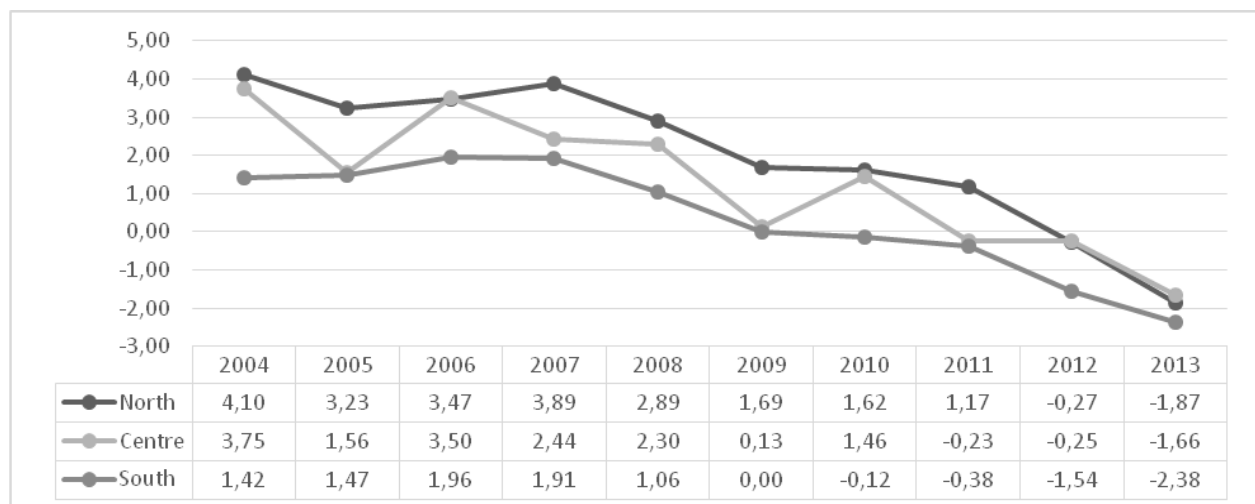


**Figure 4: Trend of Return on Investment per business sector**



With regard to the ROE, the condition is even more dramatic. Starting with lower rates compared to the ROI and a steady descent, the values are negative for all groups. Looking at the figure 5, all three groups have a negative percentage variation of more than 100%. Even in this case, the gaps between the different groups attenuate, namely those who had a higher profitability, they have, in absolute values, suffered a greater loss. The South, with an already very low rate, has decreased by 268%, that is -3.8 percentage points, while the North and the Centre each have lost about 5 percentage points (that is, respectively, -146% and -144%).

**Figure 5: Trend of Return on Equity (ROE) according to geographic localization**



**Figure 6: Trend of Return on Equity (ROE) according to business sector**

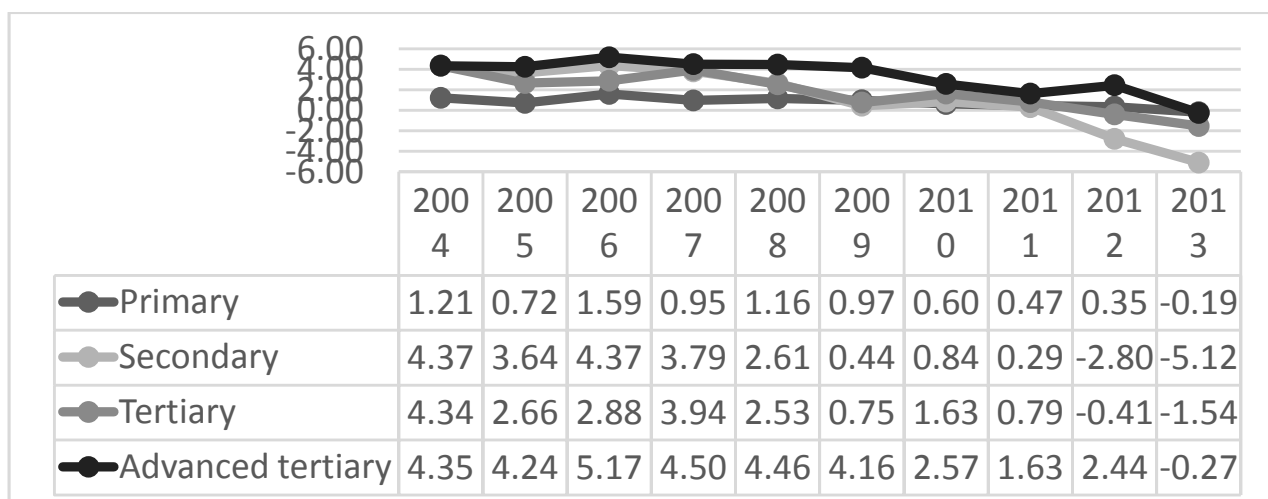


Table 6 shows the trend of different businesses. Consistently with Roi trends, the business with the worst performance is the secondary, with a decrease of 217% (more than 9 percentage point, in absolute), while the primary one maintains more constant values (however, considering the very low values, constancy should be defined stagnation). It is interesting to underline that, as expected, the major collapse of the Roe value is in 2008/2009 for all groups, except for the advanced tertiary, which has the major reduction in 2010. As said, the study wants not only to explore the economic situation of Italian cooperatives, but also to check if the found differences between independent groups, Innovation, Entrepreneurship and Digital Ecosystems

discriminating according to belonging geographical area and business sector, are statistically significant. In other words, if these factors affect the profitability of cooperatives. At this end, ANOVA has been used. Specifically, the one-way ANOVA compares the means between groups discriminating by one factor (or independent variable) and determines whether any of those means are significantly different from each other. It is important to underline, again, that this method only indicates that at least two groups are different, but not which groups are significantly different from each other. The results show that the null hypothesis must be accepted when geographical localization is taken as discriminating factor for both ROI and ROE. In fact, as reported in tables 1 and 2, ( $F(2,27) = 3.29$ ,  $p = 0.052304$ ), with  $F < F_{crit}$  ( $p \text{ value} > 0.05$ ), if ROI is the dependent variable and ( $F(2,27) = 2.28$ ,  $p = 0.12171$ ), with  $F < F_{crit}$  ( $p \text{ value} > 0.05$ ), if ROE is the dependent variable. It means that belonging to a geographical area or to another does not involve any significant differences in the level of profitability.

**Table 1: ROI - Analysis of variance with geographical localization as independent variable**

<i>Source of variation</i>	<i>SQ</i>	<i>gf</i>	<i>MQ</i>	<i>F</i>	<i>Sig</i>	<i>F crit</i>
Between groups	8.37662115	2	4.18831058	3.29798586	0.05230383	3.35413083
Within groups	34.2889238	27	1.26996014			
Total	42.6655449	29				

*Significant level at 0.05*

**Table 2: ROE - Analysis of variance with geographical localization as independent variable**

<i>Source of variation</i>	<i>SQ</i>	<i>gf</i>	<i>MQ</i>	<i>F</i>	<i>Sig</i>	<i>F crit</i>
Between groups	13.7658738	2	6.88293692	2.27924402	0.12171449	3.35413083
Within groups	81.5354983	27	3.01983327			
Total	95.3013721	29				

*Significant level at 0.05*

The situation is the opposite if the business sector is considered as discriminating factor. Table 3 shows that  $F(3,36) = 9.97$ ,  $p = 6.3464E-05$ , with  $F > F_{crit}$  ( $p \text{ value} < 0.05$ ), so the null hypothesis must be rejected and the alternative one must be accepted. In other words, the groups are statistically different. The same if ROE is taken into account (see table 4), the alternative hypothesis is accepted because  $F(3,36) = 2.90$ ,  $p = 0.04836619$ , with  $F > F_{crit}$  ( $p \text{ value} < 0.05$ ). Therefore, the business sector seems to affect the level of ROI and ROE.

**Table 3: ROI - Analysis of variance with business sector as independent variable**

<i>Source of variation</i>	<i>SQ</i>	<i>gf</i>	<i>MQ</i>	<i>F</i>	<i>Sig</i>	<i>F crit</i>
Between groups	52.1375831	3	17.3791944	9.97108325	6.3464E-05	2.86626556
Within groups	62.7465424	36	1.74295951			
Total	114.884125	39				

*Significant level at 0.05*

**Table 4: ROE - Analysis of variance with business sector as independent variable**

<i>Source of variation</i>	<i>SQ</i>	<i>gf</i>	<i>MQ</i>	<i>F</i>	<i>Sig</i>	<i>F crit</i>
Between groups	36.6676505	3	12.2225502	2.89649368	0,04836619	2.86626555
Within groups	151.911882	36	4.2197745			
Total	188.579532	39				

*Significant level at 0.05*

## CONCLUSIVE REMARKS, LIMITATIONS AND FUTURE RESEARCH

The trend of all indices is downward. The tendency of Roe and Roi is similar. The differences between North, Central and Southern Italy, though present, does not express statistically significant differences. On the contrary, there are significant differences between the sectors of the Italian economy. Therefore, it is possible to assume that only the latter is able to affect the cooperatives profitability. The result shown by analysis are consistent with the whole economy. Specifically, there are negative peaks in correspondence of the two periods of recession, that are 2008 and 2011 and the most affected businesses appear to be those of the secondary and, as part of the advanced tertiary, the financial and insurance business. Indeed, the crisis started in 2007 as a financial has had especially economic repercussions.

Therefore, the study reveals that the crisis has had a general impact and has substantially eroded the profitability of the cooperatives located anywhere regardless of their activity. "Resilience" that should characterize the Italian and international mutual societies (Fontanari and Borzaga, 2014; Fusco and Migliaccio, 2015) and that would take more resistant than the capitalist enterprises, especially in times of crisis, unfortunately, is not evident from the trend in profitability indicators.

However, the search result must necessarily consider the different area code power of the profit indicators of cooperatives: the Italian legislation imposes limits to the profits for the reasons described that characterize these companies.

It is, therefore, possible to conclude definitively on their lower profitability, without considering the trend of benefiting members who also represent part of the accrued profit. Future investigations on the same budgets will, therefore, find a different dimension of the profit that is not limited to the final income shown in the annual accounts. To it, you must add the greater value accorded to cooperative members compared to the market prices of what they have given to the society of which they are members.

From these additional future investigations the findings could also be the opposite of those seemingly obvious from this research. If, in fact, the members had held constant a rebate worth more than the market price, the smaller company's profitability could also be caused only by a lower average interest intended to remunerate external funding. In some laws, in fact, the income in the financial statements

relates to the cost of money. During the years of the crisis, European monetary authorities have progressively reduced the applicable interest rates as a necessary measure to tackle the crisis and to boost the economy, encouraging investment.

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## HOW THE EUROPEAN FUNDING HELPS PUSHING FORWARD THE RESEARCH AND ENVIRONMENT SECTORS

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### ABSTRACT

The European Union's main objectives are focused on reducing the disparities between the member states, to support them to reach a level of development that will allow them to obtain a high rate of employment, productivity and not at last a high level of social cohesion. In order to become a smart, sustainable and favorable economy for the inclusion, the EU has set targets for the coming years, leading to economic growth.

Although the European Union has financed each member state to reach its assumed targets and attain its foreseen indicators, these have not been entirely achieved. A comparative analysis of the way in which the European funds have been spent during the 2007-2013 programming period revealed that the member states with the higher rate of absorption were Estonia, Portugal, Lithuania, Finland, Sweden, Poland, Romania occupying the 27<sup>th</sup> place. Nevertheless, analysing the country report for each member state and the level of targets achievement on every area of interest, Romania takes the 4<sup>th</sup> place in IT&C sector. Seeking to improve the current state of facts, Europe 2020 Strategy comes with immediate measures and sets new initiatives for a 10 years period.

The present paper gives some understandings based on a comparative analysis of the influence of the European funds allocated over the 2007-2013 programming period in the area of research and innovation and how it changed the public institutions, business and the society as a whole, as well as the new trends and opportunities emerged for the next programming period and the measures assigned by the Europe 2020 Strategy.

**Keywords:** *European funds, comparative analysis, targets, indicators, research and innovation, society.*

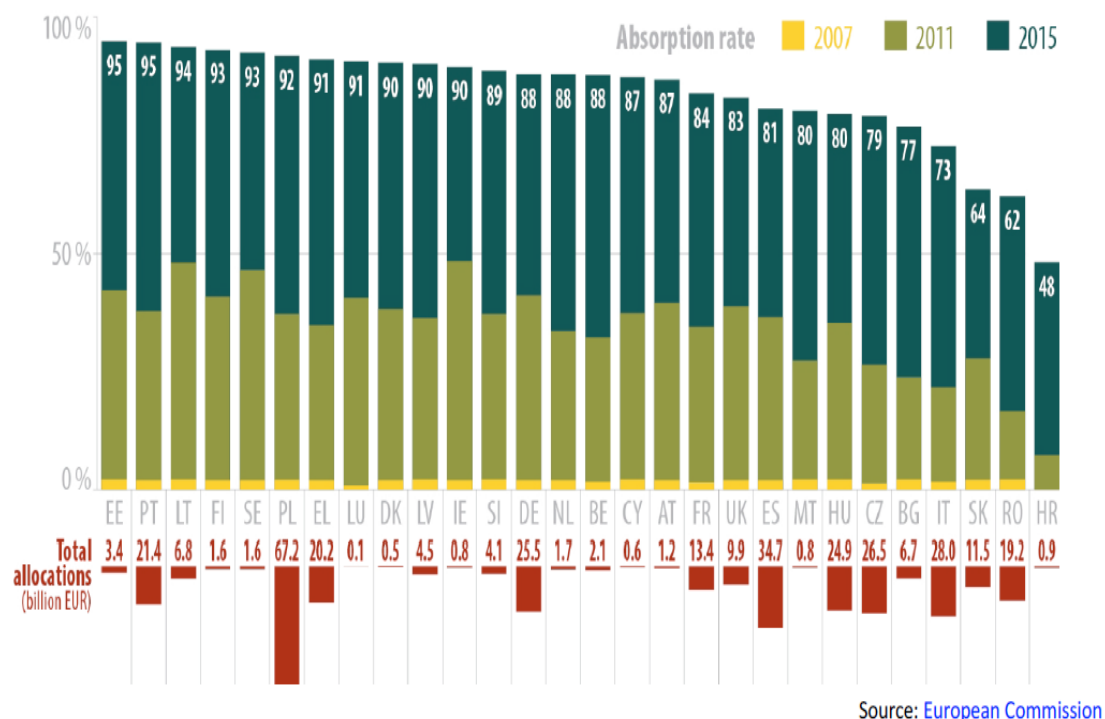
## INTRODUCING THE EUROPEAN UNION POLITICAL CONCERNS AND ECONOMIC TARGETS

The European Union aims to reduce the disparities between the member states, to support them to reach a level of development that will allow them to obtain a high rate of employment, productivity and not, at last, a high level of social cohesion. For the next years to come, important objectives have

been set by the European Union in order to become smart, sustainable and open to inclusion economy that could achieve a steady growth.

Although the European Union financed each member state to reach its assumed targets and attain its foreseen indicators, these have not been entirely achieved.

A comparative analysis of the way in which the European funds have been spent during the 2007-2013 programming period revealed that the member states with the higher rate of absorption were Estonia, Portugal, Lithuania, Finland, Sweden, Poland, Romania occupying the 27<sup>th</sup> place.



Scheme 1. The Evolution of EU Funds Absorption Rate during 2007-2015

Nevertheless, analysing the country report for each member state and the level of targets achievement on every area of interest, Romania takes the 4<sup>th</sup> place in IT&C sector.

The country report analyses the evolution of Romania during the last 3 years, both in terms of economic growth, fluctuation of public finances due to rising costs and a reduction of certain taxes and the VAT, labour market development, legislative initiatives, efficiency and effectiveness of public administration, social protection system and health system, the evolution of the business environment and R & D.

In this respect, a comparative analysis of the indicators achieved by Romania (RO), Portugal (PT), and Poland (PL), during 2014, in key areas, is presented below, namely:

Table 1 The Macroeconomic Imbalance Procedure (MIP) for Romania, Portugal and Poland in 2014

			Thresholds	PT 2014	PL 2014	RO2014
External imbalances and competitiveness	Current account balance (% of GDP)	3 years average	-4 %/6 %	0.0	-2,3	-2,1
	Net international investment position (% of GDP)		-35 %	-113.3	-68,3	-57,2
	The real effective exchange rate – 42 trading partners, HICP deflator	3 years % variation	±5 % and ±11 %	-1.8	-1,3	-1,1
	Market share of exports – % in world exports	5 years % variation	-6 %	-4.7	4,8	21,5
	Nominal unit labour cost index (2010=100)	3 years % variation	9 % and 12 %	-2,3 e	2,5 w	2,3 p
Internal imbalances	Housing prices which have been subject to inflation (% variation from year to year)		6 %	3.6	1,1	-3,6 p
	Credit flow to the private sector % of GDP, consolidated data		14 %	-8.7	4,7	-2,4
	Private sector debt as % of GDP, consolidated data		133 %	189.6	77,9	62,2
	Public sector debt as % of GDP		60 %	130.2	50,4	39,9
	Unemployment rate	3 years average	10 %	15.4	9,8	6,9
New indicators on employment	Total liabilities of the financial sector (% variation from year to year)		16,5 %	-6.1	0,6	1,1
	Activity rate – % of total population aged 15 to 64 years (3 years variation in percentage points)		-0,2 %	-0.4	2,2	1,6
	Long-term unemployment rate – % of total population aged 15 to 74 years (3 years variation in percentage points)		0,5 %	2.2	0,2	-0,1
	Unemployment rate for youth – % of the active population aged between 15 and 24 years (3 years variation in percentage points)		2 %	4.5	-1,9	0,1

Source: European Commission

Analysing the thresholds, it appears that Romania enjoyed a significant economic growth these past 3 years, the current account balance was improved in the last three years. It is estimated that it will record a slight increase in 2016 but will remain under control standing at 3% of GDP.

“The significantly negative Net International Investment Position (NIIP) has improved since 2012 and is expected to maintain this trend in the coming years. The main drivers of this improvement were a strong growth in nominal GDP and a reduction in current account deficits. In the future, the net international investment position should improve further.”

It was also noted an increase in exports and an increase in domestic consumption. Housing prices have been declining in recent years but 2014 saw a slight increase. After several years of decline, we see a

recovery in credit flow. This was caused by "a decrease of interest rates for consumer loans and a certain relaxation of credit standards."

"Conditions on the labour market were generally stable, but the employment rate is still below target objectives. Increasing employment is particularly focused in sectors with high added value. "

"The potential for long-term employment of the unemployed, older workers, Rom(any) and people with disabilities is largely unmined. Long-term unemployment rate is 2.8%, about half of the EU average. "

Table 2. The Financial Market Indicators

	PT 2015	PL 2015	RO 2015
Total assets of the banking sector (% of GDP)	253.7	92,6	58,5
Financial soundness indicators:			
– non-performing loans (% of total loans)1)	12.6	4,7	12,8
– capital adequacy ratio (%)1)	12.4	15,3	18,1
– ROE (%)1)	6.0	11,2	6,4
Bank loans to the private sector (% variation from year to year)	-2.5	5,8	4,5
Loans to purchase dwellings ((% variation from year to year)	-3.8	4,3	15,5
Loans/deposits ratio	99.6	97,2	85,4
Central bank liquidity as % of debt 2)	7.1	0,0	0,0
Private debt (% of GDP)	-	-	-
Gross foreign debt (% of GDP)3)	93.0	29,0	19,1
– public	45.8	28,9	27,6
– private			
Long-term interest rates versus Bund margin (basic points)	192.8	220,6	297,8
Swaps margins on credit risk of sovereign debts (5 years)	137.4	61,1	110,0

Source: IMF (financial soundness indicators); European Commission (long-term interest rates; private debt); World Bank (gross external debt); ECB (all other indicators).

"Implementation of the National Bank of Romania's 2014 Plan on the resolution of bad loans led to a significant decrease in the rate of bad loans at system level, that rate decreased from 22.6% in February 2014 to 11.6% in November 2015. After the unfavourable developments in 2014, banking sector profitability was restored in 2015. It shows a decrease in the share of foreign currency loans. New legislative changes may have an adverse influence on the banking sector and consequently on economic stability. Loans to households returned to growth rates being supported by consumer loans in local currency and an increase in housing loans."

"The growth rate of housing loans, which currently represent about 47% of total loans to households, also recorded a steady growth since the second half of 2014 (16.5% in nominal terms for the full year 2015). Approximately 60% of total mortgage loans in local currency were guaranteed under the state guarantee scheme "first house" to support first home purchases. The increase of loans to non-financial companies remains negative. Lending activity of enterprises began to fall from mid-2013 and since then it has not recovered."

Table 3. The Labour Market and Social Indicators<sup>1</sup>

	PT 2015	PL 2015	RO 2015
Employment rate (% of population aged between 20 and 64 years)	69.0	67,5	66,0
Employment rate increase (% variation compared to the previous year)	1.2	1,3	-0,6
Employment rate among women (% of female population aged between 20 and 64 years)	65.8	60,7	57,3
Employment rate among men (% of male population aged between 20 and 64 years)	72.4	74,4	74,6
Employment rate of older workers (% of population aged between 55 and 64 years)	49.7	43,7	41,0
Part-time employment rate (% of total employment, aged at least 15 years)	12.5	7,4	10,1
Employment rate for fixed-term labour contracts (% of employees with fixed-term contracts, aged at least 15 years)	21.9	28,0	1,5
In transition from fixed-term contracts to permanent contracts	-	-	-
Unemployment rate (1) (% of active population, age range 15-74 years)	12.7	7,6	6,8
Long-term unemployment rate (2) (% of labour force)	7.3	3,1	3,0
Unemployment rate for youth (% of active population aged between 15 and 24 years)	31.9	20,9	22,3
People at risk of poverty or social exclusion (1) (% of total population)	27.5	24,7	40,2
Children at risk of poverty or social exclusion (% of people aged 0 to 17 years)	31.4	28,2	51,0
Poverty risk rate (2) (% of total population)	19.5	17,0	25,4
Severe material deprivation rate (3) (% of total population)	10.6	10,4	26,3
Percentage of population living in households with low labour intensity (4) (% of population aged 0 to 59 years)	12.2	7,3	6,4
Risk of poverty rate of people employed (% of people employed)	10.7	10,6	19,6
Social transfers impact (excluding pensions) on poverty reduction	27.0	26,4	10,9
Poverty threshold expressed in local currency at constant prices(5)	4372	10848	4067
Gross income available (households; increase %)	0.8	3,8	-0,2
Inequality of income distribution (ratio between the top and bottom quintile S80/S20)	6.2	4,9	7,2

<sup>1</sup> [(1) People at risk of poverty or social exclusion (AROPE): persons who are at risk of poverty (AROP) and / or are affected by extremely poor material condition and / or living in households with labor intensity equal to zero or very low. (2) Poverty risk rate (AROP): the proportion of people with available income per adult -equivalent of less than 60% of median national income per adult-equivalent. (3) The proportion of people who are in at least four of the following forms of insecurity: cannot afford i) to pay their rent or bills for utilities, ii) to maintain the dwelling at an appropriate heating level, iii) to face unexpected expenses, iv) to eat meat, fish or equivalent protein more often than every two days, v) to spend a week from the annual vacation away from home, vi) to have a car, vii) to have a washing machine, viii) to have a color TV or ix) to have a telephone. (4) Percentage of population living in households with low labor intensity: the proportion of people aged between 0 and 59 years who live in households where adults (except for dependent children) worked less than 20% of their total work potential during the preceding 12 months. (5) For EE, CY, MT, SI, SK, thresholds represent nominal values expressed in euro; Harmonized Index of Consumer Prices (HICP) = 100 in 2006 (2007 survey refers to revenue from 2006)]

Source: for expenditure for social protection benefits - SESPROS; for social inclusion - EU-SILC.

<sup>i</sup> [(1) People at risk of poverty or social exclusion (AROPE): people who are at risk of poverty (AROP) and / or are affected by extremely poor material condition and / or living in households with labor intensity equal to zero or very low. (2) Poverty risk rate (AROP): the proportion of people with available income per adult -equivalent of less than 60% of median national income per adult-equivalent. (3) The proportion of people who are in at least four of the following forms of insecurity: cannot afford i) to pay their rent or bills for utilities, ii) to maintain the dwelling at an appropriate heating level, iii) to face unexpected expenses, iv) to eat meat, fish or equivalent protein more often than every two days, v) to spend a week from the annual vacation away from home, vi) to have a car, vii) to have a washing machine, viii) to have a color TV or ix) to have a telephone. (4) Percentage of population living in households with low labor intensity: the proportion of people aged between 0 and 59 years who live in households where adults (except for dependent children) worked less than 20% of their total work potential during the preceding 12 months. (5) For EE, CY, MT, SI, SK, thresholds represent nominal values expressed in euro; Harmonized Index of Consumer Prices (HICP) = 100 in 2006 (2007 survey refers to revenue from 2006)]

The employment rate experienced an increasing trend in the last 3 years, but remains below the EU average and below the stability target objective of Europe 2020 Strategy. The employment occupancy has increased in sectors with high added value such as: ICT, professional, scientific and technical activities, as well as in industry and construction. It is estimated that the share of highly skilled people in the workforce will experience considerable growth.

“The integration of young people into the labour market remains a challenge. In 2015, youth unemployment decreased to 22%, but the level remains slightly above the EU average. The proportion of unemployed young people or not attending any education or training program (NEET) (Chart 3.2.3) is well above the EU average (17% vs. 12%). A more integrated approach that provides opportunities to young people who are not employed or attending any education or training program, and which focuses on employment in public services, is being developed with support from EU funds. The potential for long-term employment of the unemployed, older workers, Roms and people with disabilities is largely unmined. Long-term unemployment rate is 2.8%, about half the EU average. Its share in total unemployment fell from 45% in 2013 to 41% in 2014. However, only 15% of the people who have been unemployed between one and two years found a job in 2014. The unemployment rate among older workers has increased gradually in 2011-2014. It has reached the level of 43% before the crisis due to the adoption of support measures, but remains below the EU average of 52%. The law to equalize retirement ages for men and women has reached the Parliament since 2013. Without this law, the participation of older women in the labour market will continue to fall significantly, contributing to differences between the pensions of men and women and increasing women's risk of being affected by poverty in old age. The employment rate of Roms is estimated at 30% (57). Discrimination, limited employment opportunities, reduced physical accessibility and deterrence of fiscal measures (58) affect the employment rate of people with disabilities (38.8% in 2013).”

Table 4. Indicators of Structural Policy and Business Environment<sup>1</sup>

Key performance indicators	PT 2014	PL 2014	RO 2014
Labour productivity (real, per person employed, yoy)			
Labour productivity in industry	-1.58	2,71	-5,69
Labour productivity in the construction sector	2.73	5,78	-8,49
Labour productivity in market services	-2.29	-0,51	2,21
Unit labour costs (whole economy, yoy)			
Unit labour costs in industry	3.07	-0,12	11,32
Unit labour costs in the construction sector	-3.00	-16,41	4,39
Unit labour costs in market services	1.20	3,87	-1,31
Business environment			
The time required for the execution of contracts (1) (days)	547	685	512
The time required to start a business (1) (days)	2.5	30,0	8,5
The result of bank loan applications of SMEs (2)	0.68	0,75	0,94
Research and innovation			
Expenditure intensity in R&D	1.29	0,94	0,38
Total public expenditure on education as % of GDP, for all levels of education combined	N/A	N/A	N/A
The number of people employed in science and technology as % of total employment	33	41	24
Population who completed tertiary education (3)	20	24	14
Young people who reached the upper cycle of secondary education (4)	72	90	80
The trade balance of high tech products as % of GDP	-1.60	-1,50	-1,65
Markets for products and services and competition	PT 2013	PL 2013	RO 2013
Product market regulation (OECD)(5), generally	1.29	1,65	1,69
Product market regulation (OECD)(5), retail	1.83	2,55	1,80
Product market regulation (OECD)(5), professional services	2.92	3,24	N/A
Product market regulation (OECD)(5), network industries(6)	2.18	2,34	1,97

**Source:** European Commission; World Bank, „Doing Business” (for the execution of contracts and the time required to start a business); OECD (for indicators on product market regulations); SAFE (for the outcome of SMEs’ applications for bank loans).

<sup>ii</sup> [(1) Methodologies, including assumptions, for this indicator are presented in detail at this address: <http://www.doingbusiness.org/methodology>. (2) On average, the answer to question Q7B\_a. „ [Bank loan]: If you applied for or tried to negotiate this type of funding in the last six months, what was the result?” The answers were coded as follows: zero if all was received, one if the most part was received, two if only a limited amount was received, three if the application was denied or rejected and treated as missing values if the application is still pending or not known. (3) Percentage of population aged 15 to 64 years who completed their tertiary education. (4) Percentage of population aged 20 to 24 years who reached at least upper secondary education. (5) Index: 0 = not regulated; 6 = most regulated. Methodologies within OECD indicators on product markets regulations are detailed at:

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(6) OECD aggregated indicators on regulations in energy, transport and communication sectors. ]



<http://www.oecd.org/competition/reform/indicatorsofproductmarketregulationhomepage.htm>

(6) OECD aggregated indicators on regulations in energy, transport and communication sectors. ]

"The shortcomings of the governance structure and weak business environment in Romania create a climate of insecurity, hamper competitiveness and represent obstacles to investment. Romania made progress in several areas of interaction between businesses and public administration. Despite this progress, the burden of government regulation and legal uncertainty still affects competitiveness. Romania's business environment is negatively affected by the lack of a rescue culture in case of companies' insolvency.

The insufficient investment in research and development (R & D), the weak business environment and the limited number of highly qualified workers are among the factors contributing to the low share of exports of high technology products.

Romania lags far behind other EU countries in terms of resources invested in research and development. The insufficient funding and fragmented institutional framework affect the public policy on innovation and R&D. The basic transport infrastructure, which is underdeveloped, an unfavourable business environment, unstable regulatory framework, inefficient public administration and a shortage of highly qualified workers play a significant role in this context.

*Table 5 The Green Growth*

Green growth performance		PT 2014	PL 2014	RO 2014
Energy intensity	kgep / EURO	-	-	-
CO2 emissions intensity	kg / EURO	-	-	-
Resource consumption intensity (peer to resource productivity)	kg / EURO	0.96	1,92	4,25
Waste intensity	kg / EURO	-	-	-
Trade balance in energy sector	% of GDP	-3.5	-2,6	-1,4
The share of energy in HICP	%	7.86	14,93	12,21
The difference between the variation in energy prices and inflation	%	1.7	-0,1	0,1
Real unit cost of energy	% of value added ratio	-	-	-
	% of GDP	6.4	5,1	4,5
The ration of tax on labour revenue and environmental changes		2.3	2,5	2,4
Environmental taxes				

Sectorial	kgep / EURO			
Energy intensity in industry	% of value added	-	-	-
Real unit cost of energy for the processing industry	% of GDP	-	-	-
The share of energy-intensive industries in the economy	EURO / kWh	-	-	-
Electricity prices for medium industrial users	EURO / kWh	0.12	0,08	0,08
Gas prices for medium industrial users	% of GDP	0.04	0,04	0,03
Public spending on R&D for energy	% of GDP	0.02	0,01	0,02
Public spending on R&D for the environment	%	0.04	0,02	0,01
Municipal waste recycling rate	%	-	-	-
The share of greenhouse effect gas emissions falling under ETS*	kgep / EURO	37.9	50,8	38,7
Energy intensity in transport		-	-	-
CO2 emission intensity in the transport sector		-	-	-

*Source: European Commission (Eurostat)*

Since Romania is still confronting with a low absorption rate of EU funds, a business environment still in development, the need to intervene in the public investment and research – development sectors, the measures and interventions to mitigate the effects of these deficiencies are still a priority in the next programming period.

During the 2014-2020 programming period the funds granted by operational programs approved in Romania (OPLI, ROP, COP, HCOP, ACOP, TAOP) will support the revival of investments, continuation of reforms and economic stability by adopting responsible fiscal policies as follows:

- Operational Program for Large Infrastructure (OPLI) will mainly fund: the mobility improvement through the development of the TEN-T network, environmental infrastructure development under effective management conditions of resources and energy efficiency,
- Regional Operational Program (ROP) will fund: the technology transfer promotion, sustainable development of cultural heritage, tourism, health, social and educational infrastructure development,
- Competitiveness Operational Program (COP) will fund: investing in C&I, economic competitiveness, business development, ICT technology,
- Human Capital Operational Program (HCOP) will fund: the initiative "Jobs for Youth", improvement of the situation of young people under NEET, social inclusion and combating poverty, local development, education and skills,
- Administrative Capacity Operational Program (ACOP) shall fund: efficient, accessible and transparent initiatives for public administration and judicial system,
- Technical Assistance Operational Program (TAOP) will fund initiatives to: "strengthen the capacity of beneficiaries to prepare and implement projects financed by FESI and disseminating

information regarding these funds, support in coordination, management and control of FESI, increase efficiency of human resources involved in the coordination, management and control system of FESI in Romania."

## CONCLUSION

This material comparatively presented the influence of forgivable funds allocated during the 2007-2014 programming period on key sectors, how they influenced the public institutions and society in general. In Romania, through the 2007-2013 programing period, there have been seven operational programs: Technical Assistance, Administrative Capacity Development, Transport, Environment, Human Resources Development, Economic Competitiveness Improvement, and Regional Operational Program [1,2,3]. It also presented the new trends and opportunities for the next 2014-2021 programming period. The analysis on the effect records, as a result of financial funds allocated in the main sectors of activity, shows that:

- Romania enjoyed an economic growth in the last 3 years. This was due to export growth, import growth, domestic consumption growth, increased wages, reduced inflation, increased investment achievement rates,
- unemployment rate fell and the employment rate increased
- it was tried a stabilization of public finances so that Romania has achieved its target of a deficit of 1% of GDP
- there has been limited progress in the area of tax compliance, equalizing the retirement age between men and women, reducing the phenomenon of early school leaving,
- there has been progress in terms of increasing the quality of education, in the field of greenhouse effect, gas emissions, energy efficiency in the social field by reducing the number of people at risk of poverty or social exclusion,
- there has been limited progress as regards the public administration, legislation, but the absorption rate of EU funds remains low,
- rural areas still face a low rate of employment, poverty, social exclusion, active aging, and health.

To improve the actual situation through financial support from the EU budget through European structural and investment funds, Romania, as an EU member state, can benefit from a grant of up to 3 billion EURO during the 2014-2020 programming period.

The granted funds focus on priorities identified in accordance with specific recommendations and are allocated as follows:

- ERDF – 34,8%,
- EAFRD – 26,4%,

- CF – 22,5%,
- ESF – 15,5%,
- EMFF - 0,5%
- YEI - 0,3%

and they will respond to the following fields: Environment Protection & Resource Efficiency, Low-Carbon Economy, Social Inclusion, Competitiveness of SMEs, Sustainable & Quality Employment, Educational & Vocational Training, Climate Change Adaptation & Risk Prevention, Research & Innovation, Technical Assistance, Efficient Public Administration, Information & Communication Technologies, Network Infrastructures in Transport and Energy.

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## THE VERSATILITY OF THE SUSTAINABLE DEVELOPMENT: A CONTINUING CHALLENGE

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### ABSTRACT

Sustainable development remains a topic of global concern. No matter the field - economic, social or environment - the sustainable development concept and issues represent the core of the European Commission preoccupations. Romanian Government is always concerned about the best way to implement the European policy so that market and society on one hand and all individuals on the other hand benefit of extra funds for build a more sustainable economy, a better society.

In this paper it will be highlighted progress recorded by each activity sector compared to the absorption degree of the funds as well as the main factors that can lead to imbalances maintenance during the next programming period (2014-2020).

Due to socio-economic context that has affected the entire Europe during the 2010-2012 periods, Romania has not been the only Member State failing to fulfil its entire assumed targets. The causes are multiple and systemically complex. Therefore the EU considered necessary and appropriate to initiate immediate and corrective measures, adapted to the individual needs of each Member State. The Europe 2020 strategy is the framework document governing priorities and corrective actions per activity sectors for the next 10 years.

**Keywords:** *Sustainable development, absorption rate, sectors, progress, European funds*

### INTRODUCING THE SUSTAINABLE DEVELOPMENT, EUROPEAN UNION POLITICAL CONCERNS AND ECONOMIC TARGETS

Sustainable development remains a topic of global concern. No matter the field - economic, social or environment - the sustainable development concept and issues represent the core of the European Commission preoccupations.

From this perspective, the development is perceived and analysed as an aggregate demand to implement environmental protection, pollution prevention, and society changes improvement. Romania's intention is to benefit of a higher ratio of allotted funds through the operational programs. Unfortunately the real situation is not as optimistic as the intentions. According to Country Report for Innovation, Entrepreneurship and Digital Ecosystems

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2016 that was including an *In-Depth Review on the prevention and correction of macroeconomic imbalances on the achieved indicators due to the use of allocated funds in the 2007-2014 programming period*, Romania has made some progresses in most sectors; however, the risk of maintaining medium term imbalances still persist.

Sustainable development can be seen as an overall goal of EU member countries, which can be achieved through international cooperation that aims at economic growth, social development and environmental protection. These targets have been assumed by all EU member states in proportion to the degree of development of each country.

Regarding the economic situation, Romania has recorded economic growth in the last 3 years, being one of the highest in the EU and it is estimated that this will continue in 2016 and 2017 as well. The increase was due, to strong exports due to massive industrial production on the one hand, and to domestic demand who gradually recovered on the other hand. GDP increased by 3.6% in 2015 due to increased consumption and investment recovery. In 2016, it is estimated that GDP will be 4.2% due to tax cuts and wage increases.

Private consumption grew by 4.8% in 2015, due to increased revenues and to value added tax reduction (VAT), which led to a sharp increase in imports. Investments increased in 2015 by 6.5% from the level in 2013.

Inflation has gradually declined in recent years, reaching a negative value of minus 1.7% at the end of 2015.

The labour market started to recover in recent years. In this regard, unemployment rate remained stable hovering at 6.7% in 2015 and it is estimated that it will reach 6.5% in 2017. Employment has experienced significant growth in ICT and professional, scientific and technical sector and in the industry and the construction sector. Youth unemployment has dropped to 22%. Nevertheless, the integration of young people not attending any training program (NEET), of long-term unemployed, older workers, Roma, persons with disabilities on the labour market remains a challenge. Key measures in order to ensure internships, professional development, certification of skills, are part of the employment strategy and of the national strategy for competitiveness to be largely financed by EU funds.

In terms of education, Romania is still confronted with the phenomenon of school dropout, especially in rural areas among vulnerable groups such as Roma and students from poor families. In addition, the rate of persons at risk of poverty or social exclusion in 2014 was one of the highest in the EU (40%).

Sustainable development aims distinctly the R&D sector, this area being insufficiently exploited in Romania. In this regard, expenditure in R & D and innovation has been reduced and experienced a reduced efficiency reaching a value of 0.38% of GDP in 2014. Europe 2020 strategy's objective is that

expenditure on R & D and innovation to reach 2% of GDP. EU structural funds accounted for 20% of public expenditure on R & D. Company's investment in R&D are developing; the share of company's expenditure on R & D was 0.16% of GDP in 2014. The low rate of attracting of investment in R & D and innovation affects the cooperation between the public and private sector on innovation research.

Information and communication technology sector (ICT) has made progress in recent years. ICT sector's share in GDP of 6% ranks Romania on the 4th place among the Member States and on the first place in the EU in relation to the use of ultrafast broadband access.

Europe 2020 strategy places the focus on the innovation research sector (I&R) as this sector plays an essential role in stimulating economic growth, in creating smart and sustainable jobs by acquiring new knowledge, in developing innovative and more environmentally friendly new products, in providing competitive and efficient services. Analysing the degree of exploitation of this sector, it was concluded that each Member State might face some obstacles that may impede full achievement of performance indicators proposed. Therefore, it is essential, on the one hand, to identify obstacles that impede R & D's full contribution to a sustainable, smart and inclusion friendly development, and on the other hand, to assess the adequacy of the policy response to the challenges identified.

Sustainable development mandatory aims the environmental sector. If during 2005-2014 emissions of greenhouse effect gas decreased by 9%, the Europe 2020 Strategy proposed a target of 4% for 2020. Regarding renewable energy, the target for 2020 is 24%. With a 24.9% share of energy from renewable sources in 2014, Romania has already reached its target for 2020. Regarding the share of energy from renewable sources in all means of transport, the goal is 10%. In 2014, the share of renewable energy in transport was 3.8%. In terms of energy efficiency, i.e. reducing the energy consumption, Romania's energy efficiency goal for 2020 is of 43 Mtep, expressed in primary energy consumption (30.3 Mtep expressed in final energy consumption).

Romania is heading towards the target set for 2020 in terms of energy efficiency. This is because the goal has allowed a substantial increase in energy consumption that exceeded both the previous and the current level.

## CONCLUSION

According to "Romania's country report for 2016, including an in-depth review on the prevention and correction of macroeconomic imbalances on" EU's budget contribution to structural changes, Romania is a major beneficiary of structural funds and European investment funds (EIF) and may receive up to 31 billion euros over the period 2014-2020. This is equivalent to 2.6% of GDP per year and 53% of national public investments planned in the areas supported by EIF funds."There have been taken measures to accomplish the reforms proposed to ensure investments' success. However, reforms in

sectors like law, healthcare investments, railway transport, waste management and environment sector, employment, social inclusion, educations and public administration could not be accomplished.

Fund programming was distributed as a result of analysing priorities and challenges identified in recent years and transposed also in each country's recommendations. These recommendations are relevant for EIF's funds, including those on: strengthening labour market including specific measures for Roma integration in the labour market, reducing school dropout to increase school enrolment, increasing energy efficiency i.e. to reduce energy consumption, strengthening transport sector, providing an efficient and comprehensive management and control of EU funds.

Romania will also receive other EU funds to fulfil country-specific recommendations, i.e. funding granted by European Fund for Strategic Investment (EFSI) program, Horizon 2020 program and the Connecting Europe Facility. Following the first rounds of projects' applications under the Connecting Europe Facility, Romania has signed agreements worth 715 million euros for transportation projects.

At the same time, Romania shall benefit of support for unemployed young people of 106 million euros from the "Jobs for Youth" initiative for undertaking measures for young people who are unemployed, and who are not attending any education or training program (NEET).

On the Europe 2020 Strategy's objectives and progress made in addressing relevant structural reforms (especially in health, rail transport, research, development and innovation (RDI), employment, education and social inclusion) shall be ensured a regular monitoring of the degree of objectives' achievement, of progress made in order to capitalize EU funds at maximum.

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## BUSINESS PROCESS MANAGEMENT IN THE PUBLIC SECTOR: EXPLORED AND FUTURE RESEARCH FIELDS

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### ABSTRACT

The main aims of this paper are to identify trends and main issues of research conducted on Business Process Management (BPM) in the public sector, and, to recognize the common insights of the research development on BPM in this area. Business Process Management is an approach dedicated to process-centric organizations and focused on analyzing, improving and controlling processes, with the objective of integrating people, processes, and technology. Although BPM is frequently applied and verified in the private sector, it is still uncommon in the public sector.

Public administration institutions of today need to enhance effectiveness and to raise customer satisfaction. They are therefore turning to methods and techniques that have been used in the management of profit-based organizations. Effective process management not only reduces costs, but also translates into high quality of services provided to citizens, and the efficient use of resources, including information and communication systems supporting government operations.

To assess the scope of practical application of BPM in the public sector we conducted the first (to the best of our knowledge) literature review in this area. Findings of our research confirms that the use of BPM in the public sector is undergoing a similar evolution that has taken place in the private sector. Improving internal structures and processes of public institutions have become dominant issues in the discussion of BPM. However, we recognized the growing importance of BPM use in the implementation of t-Government, which is focussed on a technology-driven change of business process with the main aim of delivering innovating services for citizens and radical organizational changes.

**Keywords:** *Business Process Management, Business Process Reengineering, Public Sector, Public Administration, t-Government, Literature Review*

## INTRODUCTION

Process approach and related management concepts such as Business Process Management (BPM) or Business Process Reengineering (BPR) have become dominant topics in management literature in the last twenty-five years. The creation of the process-oriented organization intensively raised in the early '90s with radical and fundamental reengineering of the organization's processes and technologies, and as a result of the evolution of process approach, BPR is considered as phase in the development of the BPM. Business Process Management focuses on analyzing, improving and controlling processes (Elzinga et al., 1995), emphasizes the transition from functional to process oriented organizational structures (Hammer and Champy, 1993), underlines the link between process and team-oriented structures and other management systems (DeToro and McCabe, 1997), and, involves employees, customers, and partners within and beyond enterprise boundaries (Swenson and von Rosing, 2015).

Research on methodologies, techniques and tools of BPR and BPM received much attention predominantly from the private sector. Little has been written about the use of these concepts in the public sector, although the requirement to continually improve performance and enhance effectiveness is imposed on public administration policies. Today's public administration institutions are seeking solutions that have thus far been used in the management of profit-based organizations. New public management requires public administration to use management methods and techniques typical of business, and introduces performance and effectiveness indicators as the public sector evaluation criteria (Kickert, 1997; Krukowski 2011). Improving performance for public administrations can be designed, modelled and measured with the help of BPM. Effective process management translates into a high quality of services provided to citizens, efficient use of human and other resources capacity, including existing IT systems supporting management. For these reasons, the literature mentions the BPM not only as a concept for reducing costs and improving the overall efficiency of public sector institutions, but also in the context of the digitization of this sector and the introduction of e-Government or t-Government (Weerakkody and Dhillon, 2008; Weerakkody et al., 2011; Janssen and Estevez, 2013).

Research on BPM is still uncommon in the public sector and has a limited degree of practical application. Thus it is perhaps unsurprising that we were unable to find literature reviews on BPR or BPM dedicated to research in this area. According to Fink (2014) a research literature review is a systematic, explicit and reproducible method for identifying, evaluating, and synthesizing the existing state of research works results. There are two main aims of literature reviews, first mapping, consolidating and evaluating research results in a certain field and second to identify knowledge gaps in an analysed knowledge domain. Thus, a literature review, allows both an evaluation of the current state of knowledge and the verification of trends, uncovering of gaps and opportunities for future

research (Webster and Watson, 2002, Schwarz et al., 2007). A literature review can also provide collective insights into the analyzed knowledge field through theoretical synthesis (Tranfield et al., 2003).

In this paper we acknowledged the gap in research and choose to develop a preliminary literature review on BPM (including BPR) in the public sector. The research questions we plan to address relating to this sector, are:

RQ1: What trends can be identified within BPM in the public sector?

RQ2: What are the main issues of the research conducted on BPM in the public sector?

RQ3: What are the common insights of research development on BPM in the public sector?

The paper has been structured as follows: the background provides the theoretical foundation, explains the evolution of Business Process Management, the need of managerial approach and development usage of ICT in the public sector. Afterwards, we describe the methodology of the research and analysis framework. In the next section, we summarize and discuss the findings. In the final part the limitations of the study and plans for future research are presented

## BACKGROUND

The common ground for Business Process Reengineering and Business Process Management is a comprehensive, holistic, process-based management approach in an organization that uses information technology, and aligns with the needs and requirements of customers through the processes organizational objectives (Elzinga et al., 1995; Zairi and Sinclair, 1995; DeToro and McCabe, 1997; Smith and Fingar, 2003). BPR initiate a radical change in the entire organization or its processes, and is a methodical approach to radically overhaul and redesign a process, and to achieve business goals (Hammer and Champy, 1993). BPM has evolved from a scientific approach to one of management and BPR ideas (Smith and Fingar, 2003). BPM is a successor of BPR, focusing on a management-style “dedicated to a process-centric, customer-focused organization with goals of integrating management, people, process, and technology for both operational and strategic activities” (Antonucci and Goeke, 2011). Process-based management concepts are usually equated with the development of enterprises, but a number of private sector “countermeasures” such as BPR and BPM have also been applied in the public sector over the years (Macintosh, 2003).

Since the early 90's the public sector has been faced with new challenges and expectations. Increasing consumer demands, IT development, growing competitiveness of economies, which requires the effective and efficient operation of the state, and support for entrepreneurship are change drivers of public sector (Becker et al., 2006). The implementation of business practices is perceived by public administration as an opportunity to adapt to changing **patterns** and **economic tendencies**. Nutt and

Backoff (1993) argue that the public sector has obscure goals and operates based on the control of authority and management, while the private sector's goals are clear and based on market forces. Moreover, public organizations are tied to different kinds of regulatory connections (policies or legislation), budgetary rules, and represent “the culture of bureaucracy”. Although there are differences, the field experiences from the implementation of BPM in the private sector could be perceived as a frame of reference for management changes in the public sector (Saxena, 1996, Halachmi and Bovaird, 1997; Rainey and Bozeman, 2000).

The common reform movement in the public sector has observed in recent years a focus on minimising administrative borders for citizens, increasing customer-centricity, reducing the cost of public administration, and improving efficiency and effectiveness (Weerakkody and Dhillon, 2008; Weerakkody et al., 2011). In order to achieve these objectives, examples of the most commonly implemented practices, models, and tools can point out: process modelling, improvements and standardization, the delivering of services online, open data, and general use of information and communication technologies (ICT). From the three main waves identified by Janssen and Estevez (2013) in the evolution of the usage ICT in the public sector: e-Government, t-Government, and l-Government, the second is strictly correlated to the processes of an organization. E-Government focused on providing online services and was often discussed solely from the technological perspective, ignoring the need for structural change (Nam, 2014). L-Government, with the leading slogan "doing more with less", is focused on reducing government complexity using the network of citizens (Janssen and Estevez, 2013). Transformational Government is the result of the evolution of e-Government and is defined as “ICT-enabled and organization-led transformation of government operations, internal and external processes and structures to enable the realization of citizen-centric services that are cost effective and efficient” (Weerakkody et al., 2011). Process reengineering in management is therefore an essential and integral part of t-Government implementation in the public sector. This is the leading reason why in the review of the literature on BPM in the public sector we took into account the relationship between BPR, BPM and e- and t-Government. Based on the literature, we conclude that there are two main fields of application of BPM in the public sector: the internal structures and processes of government institutions, and, the processes of service delivery to citizens and the interaction with them.

## METHODOLOGY USED IN THE STUDY

### *Literature retrieval process*

In the literature retrieval process we conducted a search of papers for our sample using the electronically accessible scientific databases which included: ACM Digital Library, EbscoHost, Google Innovation, Entrepreneurship and Digital Ecosystems

Scholar, Emerald, IEEE *Xplore* Digital Library, ProQuest, ScienceDirect, and Web of Science. We used multiple combinations of the following search term: ("Business Process Management" or "Business Process Reengineering" or "Process Management" or "BPR" or "BPM"), AND, ("Public Sector" or "Public Administration" or "e-Government" or "t-Government"). Indicated terms and/or acronyms should appear in the title, and/or abstract, and/or keywords of the paper. We searched only journal peer-reviewed articles. This method of formulating selection criteria was adopted from Roztocki and Weistroffer (2015). As a result, we collected a sample of 32 papers from our literature retrieval process.

#### *Literature classification process*

We classified articles according to three perspectives: meta-perspective, content-based perspective, and methodical perspective. This approach has been adapted from Houy et al. (2010), and Roeser and Kern (2015). Within the meta-perspective we analyzed the year of publication to observe trends in the evolution of the examined BPM-related concepts. We assigned any article containing the keywords "process management" to the group of articles on BPR or BPM, depending on its content. The meta-perspective also includes review of the names of journals in order to observe their main focus. The content-based perspective includes an analysis of the research issues in the examined papers and has been carried out to identify the main focus of the research conducted on BPM in the public sector. The methodical perspective contains research methods used in the papers, countries and units of the public sector where the research was conducted. The characteristics of the collected papers will allow for systematic analysis and classification in order to answer the research questions.

## **ANALYSIS AND FINDINGS**

#### *Findings from the meta-perspective*

The meta-perspective includes descriptive aspects concerning research on Business Process Management in the public sector. An overview of the 32 papers collected in our sample are classified according to the year of publication and presented in Table1. The complete list of 32 papers with references is available from the authors upon request.

Year	Number of publications	Papers on BPM in public sector
1996	1	Saxena (1996)
1997	1	Halachmi and Bovaird (1997)
1999	1	McAdam and Donaghy (1999)
2000	1	Thong et al. (2000)
2002	1	Gulledge and Sommer (2002)
2003	2	MacInstosh (2003); Papavassiliou et al. (2003)
2004	1	Ongaro (2004)
2006	1	Proctor and Grey (2006)
2007	3	Hesson and Al-Ameed (2007); Stemberger and Jaklic (2007); Stemberger et al. (2007)
2008	2	Sentanin et al. (2008); Weerakkody and Dhillon (2008)
2009	1	Helfert (2009)
2010	2	Niehaves (2010); Vuksic et al. (2010)
2011	1	Weerakkody et al. (2011)
2012	4	Candiello et al. (2012); Kassahun and Molla (2012); Ruzevicius et al. (2012); Sundberg (2012)
2013	5	Akkoyun and Erkan (2013); Niehaves et al. (2013); Polak (2013); Salkic and Bosnjovic (2013); Ziemba and Oblak (2013)
2014	3	de Waal and Batenburg (2014); Kamukama (2014); van Beest et al. (2014)
2015	2	Corradoni et al. (2015); Rinaldi et al. (2015)

Table 1. *Year classification of BPM in public sector related publications*

Publications on BPR in the public sector began in 1996, three years later than the beginnings of the reengineering revolution launched by Hammer and Champy (1993). Taking into account the keywords from literature retrieval process and publication years we have can clearly see the evolution of the concept of BPM (Figure 1).

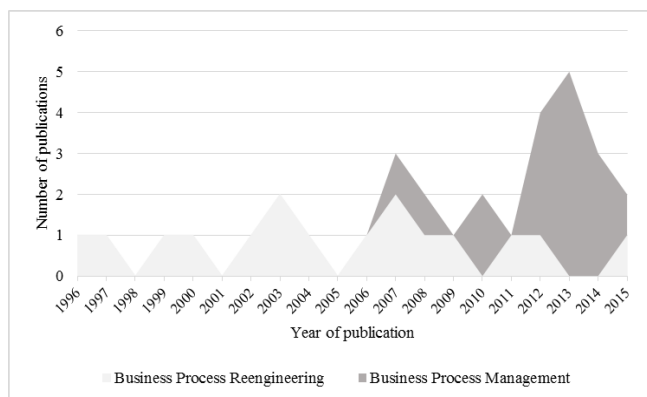


Figure 1. *Number of published papers on BPR and BPM in public sector per year (from the sample)*

We emphasize that BPR is treated as an initial development phase of BPM, its most radical. The first paper about BPR in public sector was published in 1996 (Saxena, 1996), and with the term BPM in 2007 (Stemberger et al., 2007).

Table 2 contains the classification of the journals where the papers from our sample were published. We checked indexing of journals to have an objective assessment of the quality of the publications

(Elsevier Science, 2016; Thomson Reuters, 2016).

Indexed	Number of journals	Number of publications	Journal name (Number of publications in the journal)
Web of Science	7	18	Business Process Management Journal (11), Government Information Quarterly (2), EuroMed Journal of Business (1), Information Systems (1), International Journal of Operations & Production Management (1), Long Range Planning (1), Technovation (1)
Scopus	12	24	Business Process Management Journal (11), Government Information Quarterly (2), Interdisciplinary Journal of Information, Knowledge, and Management (2), EuroMed Journal of Business (1), Information Systems (1), International Journal of Electronic Government Research (1), International Journal of Information Management (1), International Journal of Operations & Production Management (1), Journal of Management Information Systems (1), Knowledge and Process Management (1), Technovation (1), Transforming Government: People, Process and Policy (1)
Non indexed	7	7	Business Systems Research (1), Current Issues of Business and Law (1), Procedia - Social and Behavioral Sciences (1), The International Journal of Public Sector Management (1), Uporabna Informatika (1), World Journal of Entrepreneurship, Management and Sustainable Development (1), Zarządzanie i Finanse (1)

Table 2. *Journal classification of BPM in public sector related publications*

#### *Findings from a content-based perspective*

By summarizing papers according to their content, particularly the research aim and conclusions, we recognized six main research issues undertaken in the analyzed sample. They are presented in Table 3 with reference to the relevant papers.

The vast majority of reviewed papers concern the issues of process modelling and frameworks for BPM implementation. Furthermore, the articles present the role and results of BPM usage for increasing the efficiency of public organizations. The critical success factors of BPM implementation are also widely discussed.

Subsequently, in examining of the content-based perspective we have analyzed the focus of research on BPM in the public sector and the contribution of research in our sample. The research focus is divided into two main topics related to the objectives of BPM implementation in the public sector. The first research focus is the use of BPM to improve the efficiency effectiveness of operations inside an organization and to reengineer internal structures and processes. This approach advocates a comprehensive, market-oriented system of public administration transformation towards a cost-effective organization. The second involves the use of BPM to improve internal and external processes and structures to enable the realization of citizen-centric services that are cost effective and efficient as a result of increased consumer satisfaction.

Research issues	Number of papers	Papers
Business Process Modelling	8	Corradoni et al. (2015); Gullede and Sommer (2002); Kamukama (2014); MacIntosh (2003); Niehaves (2010); Papavassiliou et al. (2003); Sundberg (2012); van Beest et al. (2014)
Framework for BPM implementation	7	Helfert (2009); Kassahun and Molla (2012); Niehaves et al. (2013); Saxena (1996); Sentanin et al. (2008); Stemberger and Jaklic (2007); Stemberger et al. (2007)
Increasing the efficiency of an organization	6	Akkoyun and Erkan (2013); Hesson and Al-Ameed (2007); Ongaro (2004); Proctor and Grey (2006); Rinaldi et al. (2015); Salkic and Bosnjovic (2013)
Critical Success Factors of BPM implementation	5	Halachmi and Bovaird (1997); McAdam and Donaghy (1999); Ruzevicius et al. (2012); Thong et al. (2000); Vuksic et al. (2010)
BPM in IT systems implementation	3	de Waal and Batenburg (2014); Polak (2013); Ziemba and Oblak (2013)
Applying BPM to implement e-Government or t-Government	3	Candiello et al. (2012); Weerakkody and Dhillon (2008); Weerakkody et al. (2011)

Table 3. *Key research issues classification of BPM in public sector related publications*

Table 4. presents the results of the analysis which, of the two main research focuses of BPM implementations, is more frequent in the papers from our sample.

Research focus	Number of papers	Papers
Use of BPM to introduce a comprehensive, market-oriented system of public administration transformation towards a cost-effective organization	28	Akkoyun and Erkan (2013); de Waal and Batenburg (2014); Gullede and Sommer (2002); Halachmi and Bovaird (1997); Helfert (2009); Kamukama (2014); Kassahun and Molla (2012); MacIntosh (2003); McAdam and Donaghy (1999); Niehaves (2010); Niehaves et al. (2013); Ongaro (2004); Papavassiliou et al. (2003); Polak (2013); Proctor and Grey (2006); Rinaldi et al. (2015); Ruzevicius et al. (2012); Salkic and Bosnjovic (2013); Saxena (1996); Sentanin et al. (2008); Stemberger and Jaklic (2007); Stemberger et al. (2007); Sundberg (2012); Thong et al. (2000); Vuksic et al. (2010); Weerakkody and Dhillon (2008); Weerakkody et al. (2011); Ziemba and Oblak (2013)
Use of BPM to enable the realization of citizen-centric services that are cost effective and efficient as a result increase the satisfaction of citizens	14	Candiello et al. (2012); Corradoni et al. (2015); Hesson and Al-Ameed (2007); Kassahun and Molla (2012); MacIntosh (2003); Ongaro (2004); Papavassiliou et al. (2003); Polak (2013); Rinaldi et al. (2015); Stemberger and Jaklic (2007); Stemberger et al. (2007); van Beest et al. (2014); Weerakkody and Dhillon (2008); Weerakkody et al. (2011)

Table 4. *Research focus on BPM in public sector related publications*

As can be seen in Table 4, the vast majority of research in the field of BPM in the public sector, covers the issue of reducing costs and improving the overall efficiency of public sector institutions (28 from 32 papers in the sample). We recognized in 14 of 32 investigated papers that the primary reason in using BPM was to deliver cost effective and efficient services to the public. This is more related to the later advent of the e-Government and t-Government concepts than the process-related concepts in the public sector. From another perspective, it is worth mentioning that a *decisive majority* of the articles concern



organizational aspects of BPM implementation (81%). Only 19% of reviewed papers describe issues related to information technology in the public sector.

#### *Findings from methodical perspective*

The papers review from the methodical perspective focused on the identification methods used by the researchers. The use of this perspective also allow researchers to indicate whether they concentrate on theoretical or empirical aspects of implementation of BPM in the public sector.

Authors	Methods and unit of public sector	Country
Akkoyun and Erkan (2013)	Case study in the Turkish Social Security Institution	Turkey
Candiello et al. (2012)	Case study in the regional e-Government	Italy
Corradoni et al. (2015)	Case studies of e-government public services	Italy
de Waal and Batenburg (2014)	Multimethod approach in social insurance organization	Netherlands
Gulledge and Sommer (2002)	Case studies from US government	United States
Halachmi and Bovaird (1997)	Examples from the public sector in the UK	United Kingdom
Helfert (2009)	Case study from Irish healthcare sector	Ireland
Hesson and Al-Ameed (2007)	Case study from public sector organization	United Arab Emirates
Kamukama (2014)	Survey in government institutions and service providers	Uganda
Kassahun and Molla (2012)	Multimethod approach in public sector organizations	Ethiopia
MacIntosh (2003)	Case studies on three BPR projects from UK	United Kingdom
McAdam and Donaghy (1999)	Survey in public sector organization	United Kingdom
Niehaves (2010)	Multimethod approach in public sector organizations	Germany
Niehaves et al. (2013)	Multimethod approach in German large federal states	Germany
Ongaro (2004)	Case study in the public sector in Italy	Italy
Papavassiliou et al. (2003)	Case study in the Greek Social Security	Greece
Polak (2013)	Examples from the public sector in Poland	Poland
Proctor and Grey (2006)	Multimethod approach in the local government	United Kingdom
Rinaldi et al. (2015)	Case study of the municipality	Italy
Ruzevicius et al. (2012)	Survey in public sector organizations	Lithuania
Salkic and Bosnjovic (2013)	Survey in public administration institutions	Bosnia and Herzegovina
Saxena (1996)	Case studies from public administration institutions	India
Sentanin et al. (2008)	Case study of Brazilian public reserach centre	Brazilia
Stemberger and Jaklic (2007)	Case study of Slovene ministry	Slovenia
Stemberger et al. (2007)	Case study of Slovene ministry	Slovenia
Sundberg (2012)	Multimethod, in municipalities and governmental agencies	Sweden
Thong et al. (2000)	Case study of public institution in Singapore	Singapore
van Beest et al. (2014)	Case study of Dutch e-Government	Netherlands
Vuksic et al. (2010)	Case studies from Public Institutes	Croatia, Slovenia
Weerakkody and Dhillon (2008)	Case studies of public institution in the UK and municipality in Netherlands	United Kingdom Netherlands
Weerakkody et al. (2011)	Case study in the Turkish Social Security Institution	Turkey
Ziembra and Oblak (2013)	Case study in the government agency	Poland

Table 5. *Major research methods and country of investigations used in BPM in public sector related publications*

The research methodology in the sample of papers was based on a descriptive and/or a normative approach. A case study is a most frequent research method used in the sample of analyzed papers (62%). This method generally attempts to catch and present the reality of a particular phenomena at a point in time. The multimethod (i.e., a survey and case study, or surveys and interviews) for the analysis of a public sector in the context of BPM was used in six articles. The survey was applied by the authors of four papers. The multimethod was used in the papers which focused mainly on IT systems, frameworks for BPM implementation and Business Process Modelling. The surveys were based on structured or semi-structured questionnaires and were conducted within public administration staff in the context of culture, best practices and an organization's maturity in this sector.

The sample includes studies conducted in 21 countries including developed (56%), developing (24%) and transition countries (21%). The results of the analysis indicate that the most intense work on the BPM in the public sector was conducted in the developed countries: United Kingdom and Italy. The development of the public sector in the context of BPM implementation in the United Kingdom is broadly discussed in the sample of papers.

## DISCUSSION AND CONCLUSIONS

This paper is the first systematic literature review on Business Process Management in the public sector. The findings indicate a number of significant contributions to the body of knowledge on this topic. The study shows that the development of research BPM in the public sector is following the same evolution from the BPR-like process-oriented concept implemented in the private sector. The delay in noticing the possibility of utilizing BPM in the public sector was several years in comparison with the private sector: radical BPR started in the early '90s (Davenport and Short, 1990; Hammer and Champy, 1993), the first article with the term "BPM" we noticed in 1995 (Elzinga et al., 1995), the first paper about BPR in the public sector was published in 1996 (Saxena, 1996), and another with the term BPM in 2007 (Stemberger et al., 2007). Over the years, we have observed an increasing number of publications on this research subject, most commonly in the years 2012-13, although this conclusion weakens the small study sample. Based on the analysis of the journal list, we conclude that 11 papers were published in the *Business Process Management Journal* - the most recognized journal in the business process-oriented field. Only four journals of 20 overall focused on research in the public sector, i.e. "*Government Information Quarterly*", "*International Journal of Electronic Government Research*", "*The International Journal of Public Sector Management*", and "*Transforming Government: People, Process and Policy*". Thirteen of 20 journals are high indexed in Web of Science and also in Scopus, which may suggest an elevated quality not only reserved for those publications, but also high ranking issues concerning management in the public sector.

The dominant area of interest in the public sector, owing to the results of the analysis of the content of the reviewed articles, is the business processes modelling. This may suggest that the majority of organizations from the public sector are still in the initial phase of their Business Process Management Life Cycle. On this stage of BPM implementation, organizations are focused on process design, including models used for a better understanding of the organization's operational processes and capabilities (Van der Aalst, 2004). This fact may additionally confirm the strong interest in the framework for BPM implementation. Furthermore, a large number of papers considering this research problem suggest a necessity in developing a BPM framework for the public sector (Niehaves et al., 2013). The initial level of BPM implementation in this sector can sustain a small number of studies on the requirements and implementation of IT systems and tools supporting BPM activity in public administration, particularly those of e-Government and t-Government. Taking into account that the success rate of BPM projects is relatively low (from 50% to 20%) (Iqbal et al., 2015), Critical Success Factors (CSFs) should be identified and evaluated for reducing the failure rate of BPM implementation. The high level of interest in CSFs in the group of reviewed articles highlights the importance of this issue for the process-oriented development of the public sector (Ariyachandra and Frolick, 2008; Ram and Corkindale, 2014). A large number of research issues dedicated to improving the current performance/cost-effectiveness and process-based transformation of a public organizations can attest to the fact that research focuses on the inside of the organization and not on the needs of consumers. BPM is also seen as a method enabling the realization of consumer-centric services that are cost effective and efficient as a result of an increase the customer satisfaction. Linking BPM and e-government and t-government proves this (Weerakkody et al., 2011).

From a methodical perspective, we conclude that almost all analyzed papers are research papers and there is a lack of conceptual papers based on theories. Even those articles that attempt to create a framework do not contain references to any theory. The most commonly are used qualitative research methods, of which is featured case study. According to Yin (2013), this kind of research copes with technically distinctive situations and is aimed at illustrating certain topics in an easy-to-understand way preserving the most important advantage – they present real-life context. However, the case study allows, to a limited extent, the generalization of conclusions. It is also significant that research on BPM in the public sector mainly engages authors from developed countries, which is consistent with the fact that they are the leaders in the development of new management concepts. Finally, the results of this study show that research on BPM in the public sector is not as developed as that of the private sector. The differences between sectors pointed out by the authors in our sample (Saxena, 1996; Halachmi and Bovaird, 1997) require some modifications in BPM ascertained in the private sector before it could be applied to the public sector.

In summary, based on the results of our research, we can undoubtedly conclude that the public sector use of BPM is primarily in the area of improving efficiency within the administration institutions. However, in addition, our research confirms that the use of BPM is becoming increasingly important in improving services for consumers and enhancing their satisfaction.

The results of our study can contribute to the existing body of knowledge on Business Process Management in the public sector by systematizing explored fields in this domain and identifying the well-founded research trends and gaps related to implementation of BPM in this sector. Based on the study we can see an analogy between an implementation of BPM in public institutions and a development of BPR research in the private sector. Moreover, we can conclude that there is a need for research of BPM in the public sector in a context of grounded scientific theories. We contribute to the practice by indicating the key role of Business Process Management in the digital transformation of the public sector. Based on the literature study we indicate, that the process-based approach is able to facilitate efficient and effective e-government.

## LIMITATIONS OF THE STUDY AND FUTURE RESEARCH

A small number of revised papers aiming at BPM implementation in the public sector is the main limitation of our research. Taking into account the status of BPM implementation, particularly in developing and transition countries, and the publication frequency of printed and online media, we should extend our sample on papers sourced from indexed conference proceedings. This could provide a wider and more comprehensive analysis of the phenomenon in future research. To improve the quality in the literature retrieval process, we should expand the search terms including additional keywords related to other process-based frameworks and other approaches in management in public organizations (e.g. Business Process Orientation, Business Process Change, Business Process Redesign, Lean Government).

We believe that this initial literature review on BPM in the public sector fills, to some extent, the research gap and will contribute to the development of knowledge concerned with improving the efficiency and effectiveness of public administration.

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## EXPORT PERFORMANCE AND ORGANISATIONAL MODELS: AN EMPIRICAL ANALYSIS BASED ON THE RBV APPROACH

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### ABSTRACT

Resource based view approach is proposed as theoretical framework in order to identify the existence of similar organizational models in a sample of firms operating in the Sicilian wine industry, and the key success factors for superior export success. The findings of this research show that managers' age and wineries' export experience in export success are the key organizational capabilities, that explain a firm's strategic advantage over its competitors. The importance of these capabilities is further uncovered through the main characteristics of the clusters. The result informs strategy design at the firm level; wineries need to incorporate significant capabilities associated with managerial experience in exports into their organization.

**Keywords:** *Resource Based View Approach, Wine industry, Organisational Models, Italy.*

### INTRODUCTION

Export is a fundamental strategy from a microeconomic perspective because it represents a firms' traditional way to access foreign markets by helping leverage production capacity, enhance product and operational innovation and improve the bottom line (Piercy et al., 1998), then, ensuring the overall firm's performance and, indeed, longevity (Majocchi et al., 2005; Navarro et al., 2010; Navarro-García et al., 2016). Numerous studies have been carried out in different sectors, regions and countries to explain the main factors affecting the export performance, related both to the business characteristics and to the multiple, diverse, and idiosyncratic nature of foreign environments that affect firms' survival, expansion and their success in export markets (Samiee and Walters, 1990; Czinkota and Ronkainen, 1998). There is growing evidence that internationalization has become a key requirement for small and medium enterprises (SMEs) to gain competitive advantage, which, moreover, results in an increasing effort in managing the companies' internationalization processes (Schweizer, 2012; Dutot et al., 2014).

For wine firms, the internationalization process is sometimes the only option available in order to remain competitive in the market. Wine markets have been deeply transformed, particularly due to the

entry of new producer countries, which has led to an overall geographical reconfiguration of the productive scenario and, at the same time, a growing trend in several key markets toward quality wine consumption (Vrontis et al., 2011; Rossi et al., 2012; Crescimanno and Galati, 2014). Consequently, a number of wine firms realized that they needed to identify effective strategies in order to face severe challenges in all markets (Rastoin et al., 2006).

Research into the main determinants of export success of wine firms has been carried out in different contexts and regions. Some of these studies analyse the effects of internal and external factors on the propensity to export (Suárez-Ortega and Álamo-Vera, 2005; Duarte Alonso, 2009–2010; Parish and Freeman, 2011; Fernandez Olmos, 2011; Serra et al., 2012), on the export intensity (López Rodríguez and García Rodríguez, 2005), and on the export performance (Leonidou et al., 2002; Calantone et al., 2006; Maurel, 2009; Carneiro Zen et al., 2012).

With this in mind, the main objectives of the paper are to identify 1) the existence of similar organizational models in a sample of firms operating in the Sicilian wine industry, and 2) the key success factors for superior export success. Our theoretical framework is based on key insights of the resource-based view of the firm and focuses primarily on key organizational resources. The paper contributes empirical evidence on the export performance by focusing on firms operating in the Sicilian wine industry. The Sicilian wine industry is an economically important sector, in terms of added value it generates and the number of people employed; it represents the main agri-food activity and contributes significantly to the promotion and enhancement of the territory and its resources (D'Amico et al., 2005; Galati et al., 2015; Giacomarra et al., 2016). In fact, it covers 3.4% of the Sicilian agricultural production at basic prices (ISTAT, 2016) and 8.7% of agri-food exports in 2012, ranking among the top four agri-food products exported from the same region (INEA, 2014). This success is due to numerous wineries that have recently implemented modernization processes and are paying increased attention to improving product quality, packaging, and marketing (Galati et al., 2015).

This paper is structured as follows. In section 2, the theoretical framework is presented and the hypotheses are derived. The methodological approach used is described in section 3. Then, the main findings of the empirical research are presented and discussed in section 4. The last section concludes the paper.

## THEORETICAL FRAMEWORK

The resource-based view of the firm (RBV) is one of the most widely accepted theoretical perspectives in the strategic management field. According to this approach, the key resources that an organization owns determine its competitive advantage. Such key resources are valuable, rare, imperfectly imitable, and non-substitutable (Barney, 1991). Makadok (2001) makes a distinction between a firm's resources



and its capabilities: a resource is an observable but not necessarily tangible asset that can be independently valued and traded, while a capability is unobservable and hence necessarily intangible, cannot be independently valued, and changes hands only as part of its entire unit. Therefore, the identification of these factors that can affect the performance of firms in export markets can have an immediate impact on marketing strategy decisions. In fact, it is not uncommon, as suggested by Lages and Montgomery (2003), the firms' reactive behaviour to be based on its past results.

In this study we focus our attention on the impact of firms' and managers' characteristics, and of organizational resources on the export performance of wine firms. Concerning the firms' characteristics, Leonidou and Katsikeas (1996) assert that the role played by firms' structural factors is that of background forces facilitating or inhibiting the effective activation of the latent export stimuli. The physical size of the company is one of the main factors that influence firm performance in exports markets. Numerous studies reveal that firms with a higher number of employees and higher sales have a greater ability to expand resources and, consequently, absorb risk and are more likely to export activity than smaller ones (Erramilli and Rao, 1993; Suárez-Ortega and Álamo-Vera, 2005; Maurel, 2009). Majocchi et al. (2005), in their study on the Italian manufacturing firms, and Suárez-Ortega and Álamo-Vera (2005), in the Spanish wine industry, found that a firm's experience can be considered another potent explanatory variables of the export performance since it is related to a firm's maturity in the field of management, international transactions, and business partnerships. Some authors find that the amount of a firm's investments in advertising is, among the main factors that affect a firm's performance in export market, one of the main determinants that can contribute to increase the degree of firms' internationalization (Kotabe et al., 2002; Fernandez Olmos, 2011).

Managerial characteristics also have a relevant influence on the firms' internationalization process and on its choice of organizational model. In particular, the age of the entrepreneurs and their level of education are explanatory variables of the firms' export performance. For example, younger entrepreneurs are more risk-oriented and more associated with policies of corporate growth than older managers (Suárez-Ortega and Álamo-Vera, 2005; Serra et al., 2012). Furthermore, as asserted by Tihanyi et al. (2000) and by Wieserma and Bantel (1992), entrepreneurs with a high degree of education can create the opportunity of exploring new context and tend to favour greater access into new international markets. As suggested by various authors also professional experiences abroad and proficient use of foreign languages, affect a firm's performance in export markets because they facilitate social contacts, assist in understanding the business practices of a market, and improve communication to and from markets (Turnbull and Welham, 1985; Zou and Stan, 1998; Osland et al., 2001; Suárez-Ortega and Álamo-Vera, 2005; Serra et al., 2012; Alaoui and Makrini, 2013).

Concerning the organizational resources, a very important tool is the adoption of quality and environmental management systems. In the last few decades, a multitude of quality and environmental management standards have been developed so that they can be grouped into different categories, depending on their scope, sector coverage, regional application, and potential recognition by others initiative as being equivalent or similar in scope (von Hagen et al., 2014). In the agri-food sector the main quality and environmental management system globally recognized is the International Organization for Standardization (ISO) class, which includes a multitude of voluntary codes. Numerous studies that examine the benefits of voluntary standards show that the implementation of quality and environmental management standards have a positive influence on the firm's performance (He et al., 2015; Heras-Saizarbitoria et al., 2011; Kafel and Sikora, 2012; Sharma, 2005), supporting small farmers to enhance their integration into the global food market (Aggelogiannopoulos et al., 2007; Subervie and Vagneron, 2013).

## METHODOLOGICAL APPROACH

### *Questionnaire*

In order to analyse the key factors affecting the export success and the different organisational models of Sicilian wineries a questionnaire was constructed based on the RBV approach. The questionnaire was grouped in four thematic sections, each of which is aimed at capturing information necessary to explain the influence of internal resources to the enterprise internationalization process. The first section collects general information on wineries with specific reference to the starting year of wineries activity and sales in foreign markets, number of employees engaged in the export activity, and presence of qualified figures. The second section includes information about the managers (age, years of experience in the wine sector, education level, proficiency foreign languages, work experience abroad). In the third section we collect information about wine production (in value and in volume) and end market (domestic and foreign markets), sales channels, investments in advertising and promotion, participation to national and international fairs, presence in the web, product and process innovations, and finally, quality aspects related to the production solded.

### *Sample*

The sample used in the empirical research comprises wineries located in Sicily, one of the most important geographical regions of Italy. Our sample was composed of 102 wineries selected using a proportional stratified sampling method on 500 wineries according to the data that have been made available by the Regione Siciliana. The information was collected through personal interviews with the owners or managers that have been contacted by telephone and the questionnaire was sent to each

of them via e-mail. Our sample reflects the distribution of wineries in the region of Sicily. Wineries are mainly investor-oriented firms (IOFs) and farmer-owned cooperatives (69.6%), while sole proprietorship firms account for only 30.4% of the cases. Table 1 shows the main characteristics of the sample in terms of size, year of foundation, volumes commercialized, and export performance.

**Table 1 – Sample characteristics**

Variables		No. of wineries	%
Years	Until 10	20	19.6
	More than 10	82	80.4
Size (employees)	Less than 10	90	88.2
	More than 10	12	11.8
Number of bottles marketed	Less than 50,000 (small wineries)	35	34.3
	50,000-100,000 (small-medium wineries)	25	24.5
	100,001-200,000 (medium wineries)	11	10.8
	200,000-500,000 (medium-big wineries)	16	15.7
	More than 500,000 (big wineries)	15	14.7
Export performance	Until 10%	28	27.5
	10-25%	12	11.7
	25-50%	31	30.4
	More than 50%	31	30.4

#### *Method*

A cluster analysis was performed in order to group the Sicilian wine firms into homogeneous categories, in terms of internal resources, using the software SPSS version 19. The variables considered are export experience, number of employees, age of manager, educational level of the manager, proficiency in the foreign languages, fair's participation, and the adoption both of quality voluntary certification and environmental certifications. Based on the variables identified, we performed a hierarchical cluster analysis in order to group the companies into a number of categories, by maximizing both within-group homogeneity (small within-cluster variance) and among-group heterogeneity (large between-cluster variance). A set of clustering criteria was considered carefully in order to select the most appropriate clustering method. Ward's method was identified as the more effective for differentiation scopes, both in order to maximize within-cluster homogeneity and between-cluster heterogeneity, and taking into account that the number of observations in each cluster was expected to be approximately equal and that no outliers were present among the variables included in the clustering procedures. The distances among clusters were measured using the squared Euclidean distance. The criteria adopted in order to select the most appropriate number of clusters are both statistical and conceptual. First, we analyzed the dendrogram, which graphically illustrated how the Sicilian wineries firms are grouped into the clusters. Second, we performed three iterations of Ward's method with the number of clusters set at two, three, and four. Third, we identified the clusters that provide simple interpretations of the organizational models.

## RESULTS AND DISCUSSION

In order to identify similar organisational models among the sample of wineries operating in Sicily and identify key success factors for superior export success we performed a cluster analysis. The abscissa reports the squared Euclidean distance between clusters, while ordinate reports the identification number of each winery grouped to the Ward's linkage method. Cluster analysis has enabled us to identify three clusters, which include 46, 43 and 13 wineries, respectively. Table 2 shows the three clusters and the average values for each variable studied. One-way analysis of variance (ANOVA) was used to test the differences in the variable means among the clusters.

**Table 2 - The cluster obtained and average values of variables**

Cluster	No. of cases	Export experience	Employees	Age of manager	Educational level of manager	Languages	Fair	QM	EM
1	43	8.65	2.18	40.93	2.55	1.09	2.09	.27	.16
2	13	50.38	15.84	50.15	2.46	1.46	4.30	.30	.46
3	46	12.56	4.63	61.69	2.60	1.06	2.93	.28	.32
Total	102	15.73	5.02	51.47	2.56	1.12	2.75	.28	.27

Table 3 shows the analysis of variance between clusters and within clusters (a cluster refers to square and error mean square), F value and significance. Results show that three clusters are statistically different and most of the variables are statistically significant at the 0.95% level. In particular, as can be seen in Table 3, the variable "Age of manager" is the most influential variable ( $F = 85.209$ ) on the profile of the clusters, while the Quality Management standards is the least influential variable ( $F = 0.020$ ).

**Table 3 - Analysis of variance (ANOVA) between and within clusters**

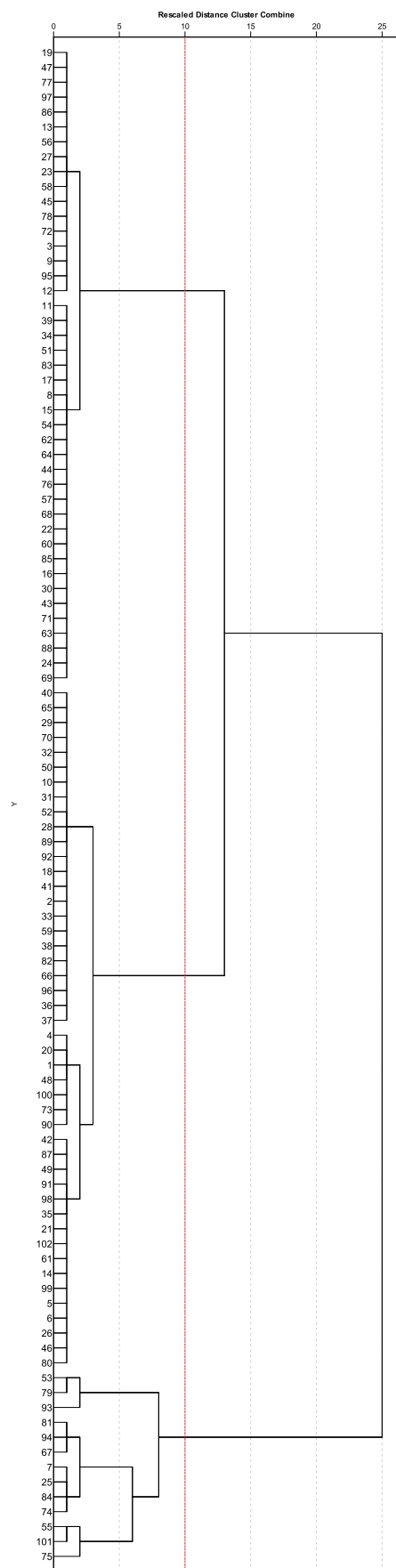
	Cluster			Error			F	Sig.
	Mean	square	df	Mean	square	df		
	between groups			within groups				
Export experience	9113.852		2	120.628		99	75.554	.000
Employees	937.995		2	63.363		99	14.804	.000
Age of manager	4804.595		2	56.386		99	85.209	.000
Educational level of manager	.144		2	.331		99	.344	.710
Languages	.840		2	.704		99	1.194	.307
Fair	25.836		2	5.498		99	5.498	.005
QM (Quality Management codes)	.004		2	.210		99	.020	.980
EM (Environmental Management codes)	.557		2	.194		99	2.872	.061

Wineries belonging to cluster 1 are small firms both in terms of size, as emerges from the average number of permanent employees, who are 2.19, both on the economic level, with an average business revenue of 380.6 thousand Euros, the lowest among the three clusters. These wineries, mostly younger

and with limited experience in trading in overseas markets, are managed by younger entrepreneurs, with an average age of just over 40 years, and with limited experience in the wine sector. This result is in contrast with findings by other authors (Serra et al., 2012; Suárez-Ortega and Álamo-Vera, 2005) according to which younger entrepreneurs are more risk-oriented and adopt market-oriented strategies. These characteristics, along with the almost total absence, among these wineries, of internal figures involved in the foreign trade relations, contribute to the low market orientation of the wineries, for which there is an export intensity, which stood at 34% and in any case not greater than 50% for almost all of the cluster wineries. In addition, it comes to wineries to a limited extent adopt quality and environmental management systems, only 12 of them implement quality certifications and 7 adopt certification of environmental management systems..

Wineries in cluster 2 include mainly older wineries with a long experience in the wine sector and in the activity of export. They are large wineries with a high number of permanent employees, which amounted on average to about 16, and average business revenue of more than 5 million of Euros. This result is in line with the findings of Maurel (2009) and Suárez-Ortega and Álamo-Vera (2005) according to which the greater firms size, in terms of number of employee and revenue, is correlated to a greater market orientation. These wineries are managed by entrepreneurs with an average age of just over 50 years and with the highest level of knowledge of foreign languages.

Figure 1. - Dendrogram obtained from the hierarchical cluster analysis using the Whard's linkage's method



As revealed by Turnbull and Welham (1985), Osland et al. (2001), Serra et al. (2012), among others, the employment of personnel with experience in foreign sales, contributes, along with the above features, to the market orientation with an export intensity, which amounted, on average, to around 50% and higher values to 60 % in more than half of the wineries that are part of this cluster. The wineries included in cluster 2 have also the highest number of quality and environmental certifications, also characterized by a high participation in national and international trade fairs. In fact, as shown by He et al. (2015), Kafel and Sikora (2012) adoption of voluntary certifications helps to improve the firms performance.

Cluster 3 has the largest number of wineries which have average values of the characteristics studied than the previous two clusters, both in physical and economic terms, distinguishing itself however to be managed by older entrepreneurs, with an average age above 60 years, with the longest experience in the wine industry, with an higher level of training but a limited knowledge of foreign languages. The limited knowledge of foreign languages, and at the same time, the lack of employees experienced in foreign sales, could explain the modest propensity to export of the wineries included into this cluster. Over 1/3 of the cellars have no employees experienced in foreign sales, which explains the modest propensity to export of the wineries included into his cluster.

## CONCLUDING REMARKS

Our paper is one of the few studies that is focused at the same time on the role that internal and organisational resources have on the organizational models in a sample of firms operating in the Sicilian wine industry. The findings of this research confirm the main hypothesis suggested by the resource-based approach, namely, that valuable, rare, imperfectly imitable, and non-substitutable resources and capabilities might explain a firm's strategic advantage over its competitors. This is especially reflected in the importance of the managers' age and wineries' export experience in export success. These two variables represent key organizational capabilities seamlessly incorporated into the everyday life of the studied firms. The importance of these capabilities is further uncovered through the main characteristics of the clusters. It seems that what makes cluster 2 the most successful in exports are the aforementioned organizational capabilities. This result informs strategy design at the firm level; wineries need to incorporate significant capabilities associated with managerial experience in exports into their organization. The originality of this work is to shed some wider light on practical insights addressed to winery managers looking for better assess competitive advantages for wine business, a matter still few analyzed, and that needs a multi-approach effort of resources impact of voluntary certifications on the profitability of those firms operating in one of the most dynamic sectors in the agri-food industry, while providing useful results to allow firms to improve their operational

strategies. The findings of the study need to be interpreted within the context for which this research was designed (Sicilian wineries) and cannot be applied generally to all businesses. Taking into account this limitation, future studies in this field could be focused on testing this model in other wine regions in order to verify the influence of internal and organisational resources on the organizational models in the wine industry.

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- Zucchella A., Palamara G., and Denicolai, S. (2007), "The drivers of the early internationalization of the firm", *Journal of World Business*, Vol. 42, No. 3, pp. 268-280 Retaining Specifications.

## ASSESSING THE DYNAMIC OF AGRI-FOOD EXPORT TRENDS BEFORE AND AFTER THE EU EASTERN ENLARGEMENT

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### ABSTRACT

This study examines the evolution in development of Intra-European Union agri-food export during the period 2000-2011. By using Data Envelopment Window Analysis, this paper at first provides a more comprehensive picture on agri-food trade performance of sampled New Member States, focusing the attention on the pre and post phase of the enlargement process. Two specific country case studies will be released, revealing different patterns of performance among New EU Member States. The majority of New EU Member States differed in their approach in benefiting from the opportunity to enter into the EU enlarged market, not only according to their initial agricultural structural conditions, but also as a consequence of pre- and post-accession political and economic trade agreements. A lot of countries preferred to strengthen the established trade relations with past group of partner countries, as defined by already in force agreements. In the future, the increase in the export flows of quality products together with the ability to enter new end-markets within the EU will largely depend on the agri-food sector units' abilities to efficiently compete and sustain competitiveness in the European and global markets. In the years coming, the overall performance could be improved by strengthening the quality side of exported goods, to better comply with EU quality standards and to acquire a more competitive advantage in the single market. A challenge that NMS are able to deal with also thanks to the recent increase in employment and education levels.

**Keywords:** *Economic efficiency, EU enlargement, Agri-food export.*

### INTRODUCTION

One of the most important political and economic challenges faced by the European Union (EU) in the last decade has been the enlargement to the Central and Eastern European Countries (CEECs). Two historical events marked this process: first, in 2004, during which the biggest enlargement took place

with the entry of Czech Republic, Cyprus, Estonia, Hungary, Latvia, Lithuania, Malta, Poland, Slovakia and Slovenia; and second, after three years, in 2007, with the accession of Romania and Bulgaria.

In the enlargement process as well as in the framework of the EU's bilateral relations with third countries (Crescimanno et al., 2013a, 2013b), the agricultural sector has played a central role, owing to its importance at the EU level and its strategic role in the economic and political life of the Eastern candidate countries (European Commission, Directorate-General for Agriculture, 2002). For these reasons, the bilateral European agreements signed since 1991 between the EU and the candidate countries, as part of the EU's pre-accession strategy, were aimed at eliminating barriers to trade, initially including only part of the agri-foods that would be subject to reciprocal tariff concessions. Later, owing to the double-zero agreement subscribed since 2000, there has been more intense trade liberalization, which affected, at that time, about two-thirds of agricultural products traditionally traded (European Commission, Directorate-General for Agriculture, 2002), to achieve total elimination of tariff protection in 2004.

Numerous studies have attempted to assess the impact of the EU enlargement on the dynamics and changes that occurred in the agri-food trade structure, primarily focusing on the pre-accession period. The results reveal an overall increase in trade between the old and new Member States, which has strengthened the economic role of the EU in the world agri-food market (Gavrilescu, 2013). However, there exists a significant asymmetry of the dynamics individually recorded by each new Member State, with regard to their initial conditions. This study contributes to the enrichment of the existing literature on the impact of EU enlargement on agri-food exports of the new Members States in the European common market, by extending the reference period to twelve years, in order to detect variations in the economic efficiency of agri-food exports during the enlargement process. In particular, it aims to assess the economic gains/losses resulting from the EU adhesion, by comparing the efficiency scores of CEECs during the period 2000-11.

## LITERATURE REVIEW

Research on the impact of EU enlargement to the CEECs primarily focused on the pre-accession period. The results suggest that this process has largely been beneficial for the economies of the New Member States (NMS), due to the comparative advantage of candidate countries related to low labor costs and the gradual increase in price level (Rollo, 1995; Forslid et al., 2002; Halkos and Tzeremes, 2009). In particular, as suggested by Bartošová et al. (2008) NMS have gained from free access to the EU market, increasing the exports of dairy products and sugar up to four and eight times, respectively, although the net effect (exports minus imports) has been much lower, particularly for these products.

The impact of EU enlargement has also been studied in relation to the direct effects of the preferential treatments granted to the candidate countries during the pre-accession period. In this regard, results reveal that the process of integration and trade liberalization has contributed to the growing of the agri-food trade between the old and new Member States. On the other hand, this process has had a negative impact, owing to a permanent and significant resistance to the agri-food exports from the CEECs in the European market (Bartošová et al., 2008; Chevassus-Lozza et al., 2008), due to the unsatisfactory level of export quality, insufficient sanitary and phytosanitary arrangements, lack of competitiveness in the food processing industry, insufficient export surplus availability and insufficient marketing are the main constraints to export growth (Frohberg and Hartmann, 1997; Duponcel, 1998; Chevassus-Lozza et al., 2008). As can be seen, a substantial literature exists on the impact of the EU enlargement in the pre-accession phase. However, little attention has been paid to the changes registered during the entire enlargement process (pre- and post-accession phases). With reference to the agricultural sector, some studies show a significant impact of the enlargement on agricultural dynamics (ZemECKIS and DrozdZ, 2009; Csaki and Jambor, 2013). While on one hand, the integration process has led to a reduction in both the contribution of the agricultural sector to GDP and the rate of employment in agriculture, on the other hand, this process has brought about an increase in the income of farmers -related to the increase in prices, production, the EU direct payments, and the financial support of EU structural funds- and agri-food trade. The results, however, show significantly different behaviors of the NMS in relation to the pre-accession conditions and the policies adopted in the post-accession phase (Csaki and Jambor, 2013). With specific reference to the dynamics and changes in the agri-food trade structure, Bojnec and Fertő (2009) analyze the effects of EU enlargement in the pre- and post-accession phases on the level, composition, and differences in the advantages/disadvantages of agri-food trade for eight central European and Balkan countries in the EU market and their implications for food policy. They found that the enlargement has had an overall negative impact on these countries, but this is different in relation to the countries characteristics among which natural factor endowments and agricultural structures, labor input costs for horticultural products, food processing and food supply marketing chains (Bojnec and Fertő, 2009 a). In a more recent study, the same authors (Bojnec and Fertő, 2012) analyze the impact of EU enlargement on the agri-food exports of 12 NMS during the period 1999-2007 and confirm that these countries stood to gain from the EU eastward enlargement, with an increase in exports of primarily higher value-added, consumer-ready, and more competitive niche agri-food products. However, Fogarasi (2008), referring to the dynamics of agri-food exports to Hungary and Romania from the EU market, shows that the improvement in performance should not be viewed in terms of competitiveness, but from the EU market demand side, in this manner, explaining the

improvement in competitiveness of some sectors (meat, fruit, and vegetables and beverages, in particular).

This brief literature review represents the starting point of our work, where the main hypothesis we would like to verify is whether all the new Member States experienced a growth in their exports of agricultural and food products. If so, in what terms, this growth occurred. Namely, did all NMS follow the same trade pattern during the pre-accession and post-adhesion periods? Did specific past trade agreements affect internal dynamic?

## DATA AND METHODS

### *Data*

With the final aim to investigate the performance of CEECs, which entered the EU during the enlargement process that occurred in 2004 and 2007, we implemented a DEA window analysis. As reported in Table 1, data originate from different sources and socio-economic indicators were chosen to measure the economic efficiency of agri-food exports. Countries included in the analysis are Bulgaria (BL), Czech Republic (CZ), Estonia (EE), Hungary (HU), Latvia (LV), Lithuania (LT), Poland (PL), Romania (RO), Slovakia (SK), and Slovenia (SI). We had to exclude Cyprus and Malta from our sample because of missing data.

**Table 1: Indicators used in the analysis.**

Indicator	Unit of measure	Source
Mean Labour cost levels (including Business economy, Industry (except construction), Services of the business economy)	Units of currency, Euro	EUROSTAT - [lc_lci_lev]
Percentage of graduates from tertiary education graduating from Agriculture programmes, Social Sciences, Business and Law programmes, Engineering, Manufacturing and Construction programmes (both sexes)	Percentage (%)	UNESCO – Institute for Statistics – Education (ISCED)
Employment by sex, age and economic activity (1983-2008, NACE Rev. 1 and from 2008 onwards, NACE Rev. 2). From 15 to 64 years. Agriculture, forestry and fishing Manufacturing	1 000	EUROSTAT - [lfsa_egan2]
Employment by sex, age and economic activity (1983-2008, NACE Rev. 1.1 and from 2008 onwards, NACE Rev. 2). From 15 to 64 years All NACE sectors.	1 000	EUROSTAT - [lfsa_egana]
Export flows – n. 24 Commodities	Dollar (\$)	United Nations – Department of Economic and Social Affairs – Statistics Division – Trade Statistics

The time period (2000-11) was motivated by the need to accurately capture the starting points of each country as well as any consequences that occurred after the EU adhesion.

Some preliminary specifications regarding the indicators are necessary. As for labor cost levels, we used the average values of three sectors in our analysis such as Business economy, Industry (except construction), and Services of the business economy. This classification prevented us from excluding important information and made the context description complete. The same procedure was followed for the three International Standard Classification of Education indicators (ISCED) and for the Employment levels. Moreover, as for Employment, after calculating the average values of the three economic sectors of our interest, by using the total employment value of each country (that includes all NACE sectors), we calculated the percentage of employees in Agriculture and Manufacturing sectors in the total number of employees. All these modifications were made to collect a good level of features of the export economic branch, including any satellite activities/skills.

Regarding Export commodities, we followed the classification of the UN Comtrade database, using the codes related to the agri-food products. According to the trade partners of our sample, data on export flows were collected after examining the exports towards the 27 EU partners (excluding Croatia, as it is too recent to adhesion).

The Labor cost input represents a strategic indicator characterizing the labor market of Eastern countries, in particular, since the adhesion moment, as these countries had the lowest labor costs in Europe, such that even if these costs increased during the twelve-year period, they certainly did not reach the average of those of old Member States.

### *Method*

To evaluate the efficiency scores of 10 NMS during the period 2000-11, a DEA window analysis has been applied. DEA is a non-parametric technique, measuring the relative efficiency of Decision-Making Units (DMUs), with multiple inputs and outputs, assuming neither a specific functional form for the production function nor the inefficiency distribution. The method, first proposed by Charnes et al. (1978), aims at measuring the relative efficiency of DMUs that are similar to each other in terms of products and services. As originally developed by Debreu (1951) and Farrell (1957), this method is based on the concept of productivity, defined as the ratio between a single output and a single input. Assuming  $n$  DMUs, each with  $m$  inputs and  $s$  outputs, the efficiency score of a test DMU  $p$  is obtained by solving the following model (Charnes et al., 1978):

$$\max h_o = \frac{\sum_{k=1}^s v_k y_{ki}}{\sum_{j=1}^m u_j x_{ji}} \quad k = 1, \dots, s; \quad j = 1, \dots, m; \quad i = 1, \dots, n$$

$$\frac{\sum_{k=1}^S v_k y_{ki}}{\sum_{j=1}^m u_j x_{ji}} \leq 1 \forall i \text{ and}$$

$$u_j, v_k \geq \forall k, i$$

where  $y_{ki}$  is the amount of output  $k$  of DMU  $i$  and  $x_{ki}$  is the amount of  $j$ -th inputs by the DMU  $i$ ;  $u_j$ ,  $v_k \geq 0$  are the weights that are applied to inputs and outputs to maximise the efficiency ratio.

Differently from the DEA basic approach, through which it is possible to carry out analysis by including observations only from one time period, the Window formulation (Charnes and Cooper, 1985) is able to measure efficiency in cross-sectional and time-varying data, allowing a dynamic effects study (Hartman and Storbeck, 1996; Webb, 2003; Asmild et al., 2004; Cooper et al., 2007; Halkos and Tzeremes, 2008; Halkos and Tzeremes, 2009; Adler and Golany, 2011; Halkos and Tzeremes, 2011; Bono and Giacomarra, 2014).

This approach can indicate efficiency trends over a specified period of time, while simultaneously examining the stability and other properties of the efficiency evaluations within the specified windows. It operates on the principle of moving averages (Charnes et al., 1985; Yue, 1992; Charnes et al., 1994a) and establishes efficiency measures by treating each DMU in different years as a separate unit. The performance of a DMU in a period can be compared against its own performance in other periods as well as against the performance of other DMUs (Asmild et al., 2004 through a sequence of overlapping windows (Webb, 2003; Hartman and Storbeck, 1996). Once the window is defined, the observations within that window are viewed in an inter-temporal manner, and therefore, the analysis is better referred to as locally inter-temporal (Tulkens and Vanden Eeckaut, 1995). Adopting the formulation of Asmild et al. (2004), let us consider  $n$  DMUs  $n=1,2,...,N$  observed in  $T$  periods of time ( $t=1, 2,...,T$ ) producing  $m$  outputs and using  $s$  inputs. We create a sample of observations, where an observation  $n$  in period  $t$  ( ) has an  $s$ -dimensional input vector and an  $m$ -dimensional output vector. Then a window with observations is denoted starting at time  $k$ ,  $1 < k < T$  with width  $w$ . So the matrix of inputs is given as:

$$X_{kw} = (X_k^1, X_k^2, \dots, X_k^N, X_{k+1}^1, X_{k+1}^2, \dots, X_{k+1}^N, \dots, X_{k+w}^1, X_{k+w}^2, \dots, X_{k+w}^N)$$

and the matrix of output is given as

$$Y_{kw} = (Y_k^1, Y_k^2, \dots, Y_k^N, Y_{k+1}^1, Y_{k+1}^2, \dots, Y_{k+1}^N, \dots, Y_{k+w}^1, Y_{k+w}^2, \dots, Y_{k+w}^N)$$

In our case, the DMUs represent the 10 NMS ( $n = 10$ ) over a twelve-year period ( $p = 12$ ), producing  $m$  output (Export flows in \$), using  $s$  inputs (Labour cost, ISCED, and Employment level). DEA window analysis implicitly assumes that there are no technical changes during the period under analysis within each window (Zhang et al., 2011). Similar to other scientific contributions in this methodological field (Halkos and Tzeremes, 2009; Zhang et al., 2011; Wang et al., 2013), a window width of three years ( $w = 3$ ) has been decided. Starting from the year 2000, it has been possible to include the years 2004 and 2007 in separate windows, respectively, representing the two EU accession years.



## RESULTS AND DISCUSSION

Table 2 reports the DEA window results implemented using Frontier Analyst software.

%	BG	RO	CZ	SK	SI	HU	EE	LV	LT	PL
2000	79.7	85.3	100.0	100.0	100.0	100.0	100.0	100.0	100.0	100.0
2001	100.0	100.0	100.0	100.0	100.0	100.0	99.1	100.0	100.0	100.0
2002	100.0	100.0	100.0	100.0	100.0	96.4	100.0	100.0	99.6	100.0
2003	94.8	96.3	92.0	95.5	100.0	94.7	100.0	100.0	96.0	100.0
2004	87.5	100.0	100.0	100.0	100.0	100.0	100.0	100.0	100.0	100.0
2005	89.0	88.6	96.0	100.0	100.0	83.0	100.0	100.0	100.0	100.0
2006	100.0	91.7	91.2	100.0	100.0	100.0	100.0	100.0	100.0	100.0
2007	94.9	78.6	97.8	100.0	100.0	100.0	95.3	87.3	90.9	100.0
2008	84.7	91.2	100.0	92.7	100.0	100.0	100.0	98.6	100.0	100.0
2009	91.8	90.0	100.0	100.0	100.0	100.0	100.0	97.8	100.0	100.0
2010	100.0	94.6	96.6	100.0	100.0	100.0	100.0	100.0	100.0	100.0
2011	100.0	100.0	100.0	100.0	100.0	100.0	100.0	100.0	100.0	100.0

**Table 2: DEA Window results (%).**

The performance of each DMU during the twelve-year period considered has been quite stable and, on average, characterized by high efficiency scores. This indicates that the EU enlargement to the CEECs has not led to an overall improvement in the latter's economic efficiency of the agri-food exports, despite an increase in absolute value, as already estimated in previous studies (Bartošová et al., 2008; Chevassus-Lozza et al., 2008; Fogarasi, 2008). Through the DEA window analysis, a country-wise comparison is possible, allowing the interpretation of data in terms of the efficiency of a DMU against itself (column view) or against other DMUs (row view). As other studies emphasize (Bojnec and Fertő, 2009; Csaki and Jambor, 2013), the performances vary among the NMS, owing to their pre-accession conditions and post-accession policies. Our sample has been therefore divided in three different groups (Table 3), characterized by different levels of performance (ranged between 93 and 100 per cent) and dissimilar variation coefficients (ranged between 0.0 and 7.5 per cent).

**Table 3: Groups of countries according to their average efficiency scores.**

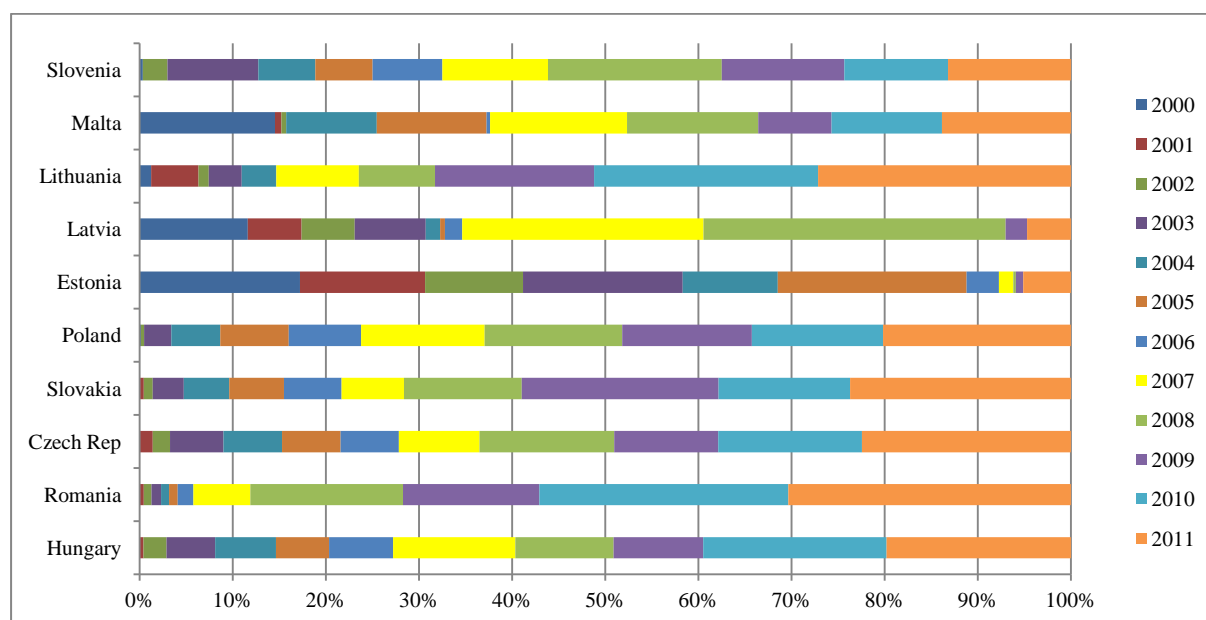
	Countries (DMUs)	Average values of efficiency scores (%)	Variation coefficient (%)
<b>Group 1</b>	BG	93.5	7.5
	RO	93.0	7.3
	CZ	97.8	3.3
	HU	97.8	5.1
<b>Group 2</b>	PL	100.0	0.0
	SI	100.0	0.0
	LT	98.9	2.8
	SK	99.0	2.4
	EE	99.5	1.4
<b>Group 3</b>	LV	98.6	3.7

Overall, our results suggest that NMS recorded high performance scores during the period 2000–2011, some of them followed a more constant growth pace (Group 2), while others experienced transition in their trade relationships, translating in wide alternation of peaks and troughs on their exports flows (Groups 1 and 3). An in depth analysis through case study of specific countries belonging to the first and third group allow a further interpretation.

#### *Bulgaria case-study (Group 1)*

Bulgaria, during the pre-accession phase (2004–07), registered a decline in the share of its agri-food exports on the total products exported by NMS in the European market, with a recovery after the adhesion. As emphasized by Antimiani et al. (2012), NMS belonging to other trade agreements, like Central European Free Trade Agreement (CEFTA), registered positive trend in the post-accession period, with an agri-food export-oriented preference towards goods whose sophistication is decreasing due to their re-localisation of production process and export flows towards countries with a lower GDP per capita. Figure 1 confirms this finding, providing more interesting insights:

**Figure 1: Bulgaria. Agri-food export dynamic towards NMS (2000–2011)**

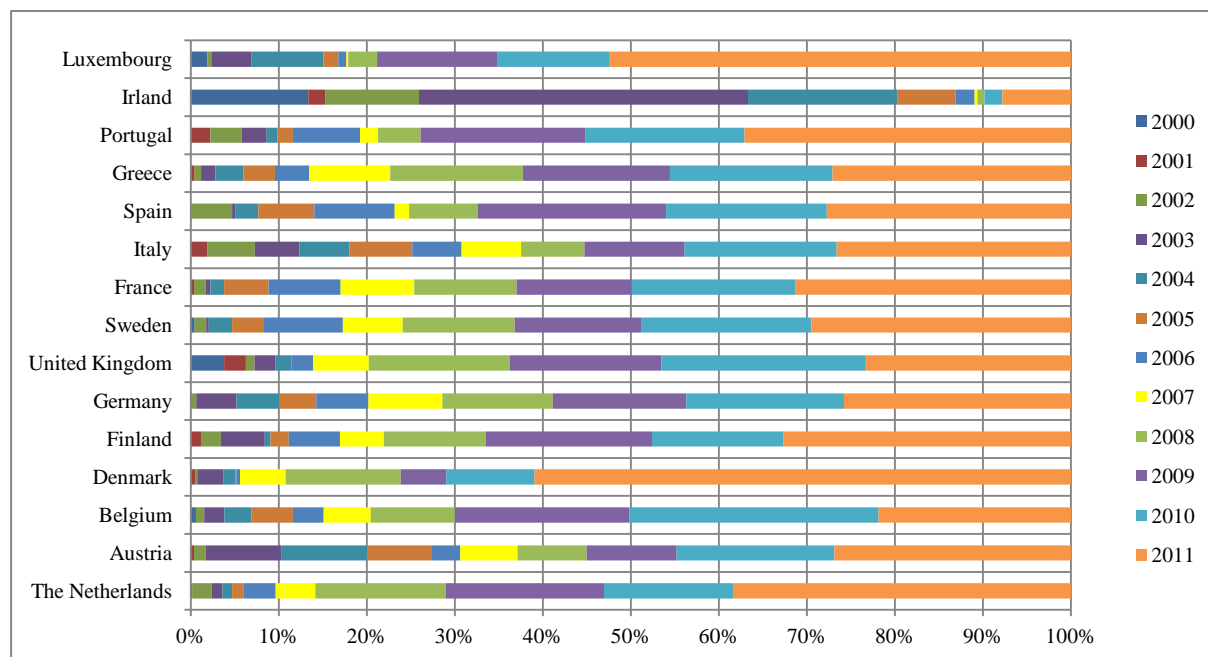


In fact, Bulgaria, immediately after the EU accession, maintained an almost stable agri-food export flow with historical trade partners, such as: Hungary, Czech Republic, Slovakia, Slovenia. This was due to the CEFTA trade agreement (lasting from 1997–2003) that facilitated the increase in trade flows among partner countries. Indeed, in 2004, with the accession to the EU, Czech Republic, Poland, Hungary, Slovenia and Slovakia left CEFTA, but the past trade relations were preserved. As regard the relationship with Romania, the country increased its export flow towards this last, doubling and tripling its economic value (almost inexistent during the 2000–2006 period). In 2007, when Romania and Bulgaria joined the EU, they left as well CEFTA. As regard the Baltic Region, a very particular attitude characterized Bulgaria, above all having a look to the trade relations with Estonia that, after the Innovation, Entrepreneurship and Digital Ecosystems

Bulgarian adhesion, have been widely reduced, together with an instable trade paths also with Lithuania and Latvia.

An interesting export dynamic has been also recorded as regard Old Member States (OMS) (Figure 2)

**Figure 2 – Bulgaria. Agri-food export dynamic towards OMS (2000-2011 period)**



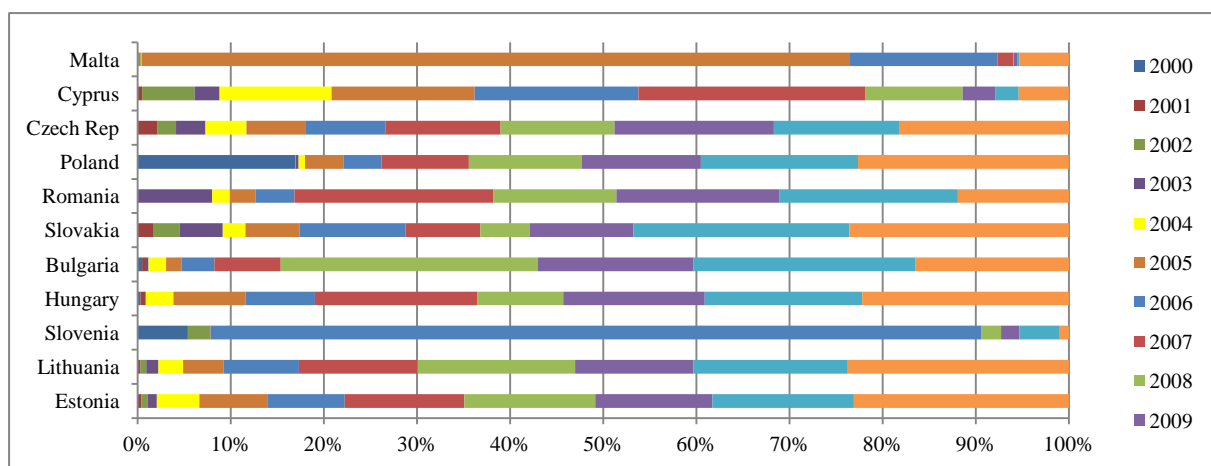
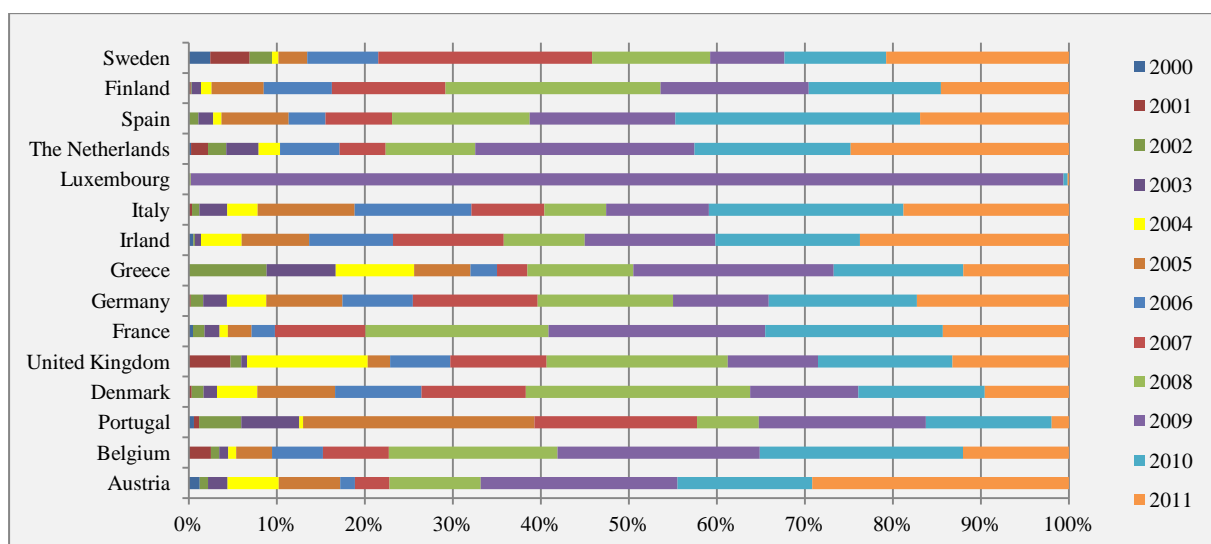
Since the year 2007 (yellow colour), Bulgaria increased economic relations (following a stable and growing path) with the majority of NMS. In particular, the trade relations with Denmark, Belgium and The Netherlands experimented a significant increase. The singular event translated in a relevant reduction in the agri-food exports recorded from Bulgaria to Estonia, this time has occurred towards Ireland. Indeed, the two countries characterized by historical agri-food intense flows, almost stopped this trend near the adhesion period, with a timid recovery only from 2011.

#### *Latvia case-study (Group 2)*

From Group 3, and with the lower efficiency scores of the sample (98.6 per cent), Latvia showed a general and growing trend of its export flows immediately after the adhesion, towards almost the totality of the NMS (Figure 3).

A growing trend only interrupted by the instable flow towards Slovenia and Malta.

A similar growing trend has been identified for Latvia agri-food exports towards the OMS (Figure 4), with an exception for Luxembourg that has seemed to be not so interested in the adhesion added value.

**Figure 3 - Latvia. Agri-food export dynamic towards NMS (2000-2011 period)****Figure 4 - Latvia. Agri-food export dynamic towards OMS (2000-2011 period)**

## CONCLUSIONS

This paper provides new insights in the trade dynamics analysis of the agri-food sector for the enlarged EU by expanding the time period to include both pre- and post-accession phases. Results emphasize that, apart from an overall positive performance, NMSs have significantly differed in their approach in utilising the opportunity of entry into the EU enlarged market, as outlined in the country studies for Bulgaria and Latvia. A lot of countries shows differences because they preferred to strengthen the established trade relations with past group of partner countries, as defined by already in force agreements (as Bulgaria with CEFTA). This was partially due to their initial conditions, particularly referring to the structure of the agricultural sector and food industry of each single NMS, as well as to speed of reaction to pre-accession policies and post-adhesion strategies. In particular, many countries have not had the ability to take a net advantage from the EU entry, particularly owing to the pre-accession EU financial support that was specifically addressed to restructure the farming sector and

would have made the same even more competitive through investments in agricultural holdings and in the improvements to the processing and marketing of agricultural and fishery products. Financial support was intended to support the creation of greater synergies between the production and processing systems of the EU Member States, contributing, at the same time, to provide growing opportunities in an enlarged market. In the future, the increase in the export flows of quality products together with the ability to enter new end-markets within the EU common framework will largely depend on the agri-food sector units' abilities to efficiently compete and sustain competitiveness in the European and global markets. In the years coming, NMSs overall performance could be improved by strengthening the quality side of exported goods, to better comply with EU quality standards and to acquire a more competitive advantage in the single market. A challenge that NMS are able to deal with also thanks to the recent increase in employment and education levels.

Future research must focus on an in-depth analysis, with specific reference to country study, to investigate changes in the different segments of products marketed, analyzing the trend achieved as regard quality certifications (both voluntary and regulated one), as well as specific country to country trade internal arrangements.

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## THE LEADERSHIP IN THE MULTICULTURAL CONTEXT

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### ABSTRACT

In the actual context of economic globalization adapting to different cultures is the essential characteristic that not only the leaders must show but also the employees; cultural diversity emits a greater number of ideas than a homogeneous group, generating a larger number of solutions that are coming from different perspectives.

The main challenge for a leader as a coordinator of a mixt team, from a multicultural point of view, is the fast adaptability when interacting with another culture that implies principles, different habits that can be partially or even totally opposite to those considered self-evident. The main factor that can favourably influence the integration of all members of a mixt multicultural team is the open mind attitude of a leader when encountering new elements.

As a coordinator of a mix team it's important not to apply the logic of a single culture but to create a median between them, the leader having the role of protector of each culture. The essential trait that a leader must prove is flexibility and informal communication as being the main element of an open attitude towards the employees.

**Keywords:** *leadership, multiculturalism, performance, adaptability.*

### INTRODUCTION

The success of a business it's conditioned by putting into practice an efficient system of management, leadership being the ability to determine the involvement of other team members in the project itself. Management decision quality and performance of an organization depend on the leaders and the managers of an entity; they are the key pawns in design strategy, defining organizational culture and building the management system of an economic entity. Leaders are those who exercise continuously functions of organization, coordination, forecast and assessment against operational employees.

"The basis of leadership in a mix team is to create the team spirit also known as harmonization strategy that reflects the thinking capacity of individuals, acting and applying the same idea in order to achieve their goals." [Nicolescu O., 2007].

Team spirit is formed by combining four distinct processes: building mutual trust between team members, the exposure of clear goals that need to be achieved, strong motivation both in terms as a group and as an individual and the implementation of participative decision process. Leadership is

regarded as non-existent without the idea of team spirit and its concretization requires the leader to be followed, willingly, by the other team members in order to obtain the best of results. Although the national cultures may be different or even opposing within a mixed team it's important that its own organizational culture to develop which can be represented by all beliefs, values, aspirations prevailing within the group that are accepted by all of the team members, which will influence the performance of the group in a direct manner.

Managers, leaders and employees must be able to realize changes and to implement a long-term process, minimizing as such the idea of "opposition" to change; the availability to continuous learning is again a key element that needs to be applied every time when the company arrives at a situation as "Crisis".

It's important to notice that the companies who have the ability to adjust her standard rules according to employees are able to achieve competitive advantage through performance making added value with the condition of a good management and an open mind attitude when is encouraged the entrance of new elements regarding the different opinions, ideas or values that the employees have.

## **METHODOLOGY STAGES OF INTEGRATING MEMBERS IN A MIXED TEAM**

In the multiculturalism concept adopting a symbiotic leadership style is the concept that favours the most when it comes to the integration of team members bringing many benefits from the increased mutual trust between the coordinator, the team and the other people in the organization, creating and incentive system that implements transparency to employees will avoid problems caused by ethnic, religious and cultural differences, therefore achieving an equitable share of the rewards offered by the entity.

Symbiotic leadership ensures the existence of a strong team spirit aiming to the identification of any member with the group to which it belongs, the trust in the group generating new heights in the levels of effectiveness. According to the concepts of organizational culture there are four addressed categories which include: organizational, economic, national culture and the branching of activities. Particular attention is paid to national culture – the distinct trait of different ways and habits being the key measurement element of each of them.

Organizational culture reflects a new approach on issues related to human resource management. Interest in organizational culture has become one of the branches of modern management, practiced almost in all of the world's organizations, considered a key component in efficient management standards; therefore the organizational culture of a mixed team it's presented like an unitary whole forming an unitary structure with common and divided symbolic and processing elements adopted



by individuals within a group on three levels: beliefs, values but also the type of conduct adopted by individuals within the group.

It's a major impact for a leader of a mixed team the harmonization of the activities first in order to improve teamwork, the great attention is brought to the adaptability capacity to the work environment through efforts submitted by the employee in order to flatten and to fit within the organization, secondly, the leader as the prime holder of responsibility, and thirdly, the team, viewed as a whole, in the position to assimilate one or more newcomers. Redesigning the organization is a common practice in large companies due to certain factors that might threaten its existence: the increasing number of competitive businesses and companies, fewer customer numbers, geopolitical changes etc. Respecting this, the necessity of change interferes within the organization which impacts directly the system the managerial strategy but also the organizational culture of a mixed team. Most often it involves organizational transformation and redesigning the whole organization. In this situation, every coordinator has to lead the team to accept the idea of change as an event that cannot be postponed being the main factor that can transform the company into a more productive organization, generating performance.

## **CONTINUOUS IMPROVEMENT OF LEADER'S BEHAVIOUR - THE MAIN OBJECTIVE OF A SUCCESSFUL COMPANY**

The general objective of a company is to determine accurately the goals, sharing them with the employees that are key elements in grounding the team and its behaviour as a whole, in this situation the team members are no longer focused on cultural differences but to achieve the objectives and the potential differences are regarded as positive elements in finding the best solutions for the entity. The leaders play an essential role because the approach is based on the chemistry between the leader and the team, the mutual trust and also on the collegiality, regardless the hierarchical level at which member is situated on the entity; the client will be seen, first of all, as a person with requirements who needs to be accomplished.

Nowadays it's important to assume leadership in the context of fundamental emphasis on both of the formally and the informally. The informal part will consolidate in time as a direct result of knowing the personality of each team member. The formal fundament it's represented by the knowledge acquired over time and by the default status given to their position obtained when assigned to a management position.

While in the past the emphasis was on the formal fundament, with the passage of time the conception on the leadership style has changed so that the informal fundament linked to the human side began to be placed in the same position with the formal fundament in the characteristics rankings that

determine a successful leader; only together the formal and informal sides can provide the necessary basis of an efficient and effective leadership.

It is considered essential that a leader must possess charisma, being a native trait; charisma is seen as the capacity to determine the involvement of other people in carrying out certain activities. Management training is based on the enhancement of the qualities that the leader was gifted with and the capacity of influence he possesses on other people. "The overall result of these processes is the training of social skills, technical knowledge, communication and the ability of decision making.

The internationalization of economic activity is one of the most current trends in the contemporary economy. In such circumstances the differences between the organizational and the national culture become most spread issues in most of the entities. The main solution is the existence of an organizational culture capable to accept new exogenous cultural elements; the most efficient method is the co-optation of all members through common elements but also a new approach of participative management style.

## **ESTIMATED RESULTS**

Well known variables that any organization has are those such as the company's history - the longer is the history the greater influence has on the company. In a favourable case, the history can be seen as source of continuity, stability and prestige.

Another element that has a high impact is the business owner - it can be represented either by one person or a small group of people either by an organization or a group of members much larger. The main difference is when the owner is unique the general influence on the group has a major impact. If exist a greater number of owners their influence is much lower than the initial case, increasing the direct influence exercised by managers.

The main functions that a leader must adopt in order to harmonize the team are first of all, directing employees in order to achieve common objectives - that is the function with the greatest degree of complexity meant also to generate performing activities in order to achieve the objectives contained in the company's strategies where the decisions taken by the leader are closely related to human resources management.

The company size represented symbolically by turnover, number of employees and capital value has also a major impact on the cultural diversity. A larger organization presents a diversified cultural sphere that is more difficult to coordinate and modelled by the leader. Instead, a smaller company usually does not have a special budget created for team building so it prefer to have employees who come from the same cultural sphere because they are much easier to harmonize .Now the trend is to

reduce the large companies due to the effects of automation, manpower losing more and more ground in front of the technology evolution.

The economic situation of an entity has its own sphere of influence due to the accessibility of financial resources that the company has for its employees. If the resources are restrained and appear certain restrictions on the economic facilities with a direct impact of the professional training is possible to cause stress that doesn't help to integrate all the members of a team.

## CONCLUSION

We must start from the premise that there's no successful leader without having a team, meant to follow him, composed of quality members. "The leader's ability to listen, to consider and to put into practice the ideas proposed by the members it presents a multitude of advantages; the first being that it is perceived by the team as interested by their views, giving them feelings such as trust, group affiliation and recognition"[William M., 2005]. The second advantage is represented by the amplification of success generating ideas which reduces the amount of work submitted by the leader in finding the best solutions but also reducing the adjustment period to the new enacted decision, being proposed even within the operational team.

It's important for a leader to be connected of employees and vice versa and if the case of conflicting opinions finding some plausible assumptions that are made for the purpose of persuading the team and not forcing it to apply certain rules that was not supported in the initial phase. Presentations of tasks list that must be performed with the purpose of letting the team come to terms in order to delegate a suitable person for its execution. Also, in the case of process improvement, the purpose of transmitting the information is to raise awareness and not to raise threat.

A mixed team implies a democratic style of leadership with certain dimensions as: cooperation – default teamwork, flexibility given to employees from both of the work program and decision taking as a team point of view. Transparent communication regardless of the hierarchical level both horizontally from employee to employee and vertically, information being propagated from the leading person to the team plus encouraging the vertically upward communication, suggestions coming from employees to managers, leaders encouraging the participative approach.

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# INNOVATION THROUGH ACQUISITION IN FOOD INDUSTRY: A CASE STUDY

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## ABSTRACT

Recent studies on innovation in food industry have emphasized the importance of external sources of knowledge and collaboration in the innovation development process, in line with the open innovation paradigm. In particular, they highlight the key role of acquiring knowledge and building strategic networks with external sources in order to compete and growth. Nevertheless, literature has not thoroughly investigated the effects of acquiring another firm on firm's innovation structure, and on both product and process innovation, even if management literature recognised its strategic role. Indeed, the effects of acquiring another firm are fairly investigated, but not in the food industry. In this context, the paper aims at filling this gap by studying the effects of an acquisition in food industry with particular emphasis on the benefits and synergies in terms of product and process innovation. To reach this goal, we employ a qualitative methodology, focused on a single case study. The case study is relevant as it indicates that acquisition in food industry can be a strategic path in order to enhance innovativeness and sustaining competitiveness.

**Keywords:** *innovation, acquisition, external knowledge, food industry.*

## INTRODUCTION

The food industry is one of the most important engine for growth in the Italian and European economic environment, with a significant contribution in terms of employment and economic output (Avermaete, 2002; Menrad, 2004; Bigliardi and Galati, 2013; FoodDrinkEurope, 2014). In this context, innovation in food industry is recognized as a key strategy to sustain competitive advantages and satisfy consumer needs, in the current scenario of characterized by uncertainty, globalization and increasing competition.

Literature on the food industry is rich and has deeply investigated the presence of various types of innovation (Capitanio et al., 2010) and the changes taking place in business models (Baregheh et al., 2012). Some recent studies on innovation in food industry have emphasized the importance of external sources of knowledge and technology in the innovation development process (Sarkar and Costa, 2008; Enzing et al., 2011), in line with the open innovation paradigm (Chesbrough, 2003). In

particular, they point out the key role of acquiring knowledge and building strategic networks with market-based and technology-based external sources in order to compete and growth. Nevertheless, literature has not thoroughly investigated the effects of acquiring another firm on firm's innovation structure (Gerpott, 1995), and on both product and process innovation, even if management literature recognised its strategic role (Bower, 2001). Indeed, the effects of acquiring another firm are fairly investigated, but focused on other industry (Ahuja and Katira, 2001).

In this context, the paper aims at filling this gap by studying the effects of an acquisition in food industry with particular emphasis on the benefits and synergies in terms of product and process innovation. To reach this goal, we employ a qualitative methodology, focused on a single case study.

The article is structured as follows: first, we provide a literature review on innovation in food industry and innovation through an acquisition, identifying the gap. The research method is then delineated. Next, the findings of the case study are presented and discussed. Finally, the conclusions and implications of the study are set out, along with the limitations of the research.

## LITERATURE REVIEW

### *Innovation in Food Industry*

In many sectors, innovation is the key strategy for the search and development of competitive advantages (Bresciani and Ferraris, 2014). Innovative firms build and maintain competitive advantage by developing products that can allow to achieve a sustainable position on a market that is characterised by international competition and increasing customer demands. In this view, innovation is understood as the activity through which new ideas developed allow to generate output such as new products, new services and new processes (Tidd et al., 2005). Product and process innovations are the result of an interactive process in which actors within the firms together with actors from external organisations translate knowledge and techniques into new products and processes (McKelvey, 1996). Moreover, Damanpour (2009) suggests that innovation is often driven by pressure from external environment, including factors such as competition, deregulation, isomorphism, resource scarcity, and customer demand (Baregheh et al., 2012).

In such a framework, innovation in food industry is deemed particularly important. The food industry is one of the most important engine of growth in the Italian and European economic environment, with a significant contribution in terms of employment and economic output (Avermaete, 2002; Menrad, 2004; Bigliardi and Galati, 2013; FoodDrinkEurope, 2014). Although the food industry is recognized as low R&D intensity, mature and slow growing industry (Sandven and Smith, 1993; Costa and Jongen, 2006; Rama, 2008), products and process innovation are recognized as an important strategic key to sustain competition in the food high-competitive environment and satisfy consumer

needs (Menrad, 2004). In fact, consumers are increasingly demanding products variety, with different tastes and dietary products (Costa and Jongen, 2006). This requires the introduction of new products, more customized, focused to the needs of consumers that are changing rapidly. Furthermore, it encourages firms to develop process innovations in order to reduce costs associated with the development and production of new products and increasing efficiency.

Empirical studies on type of innovation in the food sector show different results. Grunert et al. (1997) propose that successful firms have a mix of process orientation, product orientation and market orientation. In a similar vein, Menrad (2004) noted that two-thirds of their sample were engaged in both product and process innovations and Brewin et al. (2009) identify an interrelationship between product and process innovation. Conversely, Avermaete (2002) points out that food firms are mainly engaged with incremental product and process innovations with a low rate of radical process innovations. Likewise, Capitanio et al. (2010), studying the innovation process on a sample of Italian firms, show that food firms develop more process innovations than product innovations, and that a large part of product innovations are incremental. Finally, some scholar underline the importance of packaging, within product innovation, in the relationship with the final customer (Gellynck and Vermeire, 2009).

Moreover, the food industry has been facing technical and economic changes both in society and in the manufacturing and food processing. This has led to a relevant impact on the food value chain, and forced firms to pay high attention in food products that meet the consumers' demand for a healthy lifestyle (Bigliardi and Galati, 2013).

These factors have changed the innovation approach of firms from the food industry, which must increasingly take into account both internal and external sources for innovation (Chesbrough, 2006; Sarkar and Costa, 2009). Nevertheless, although the literature shows that acquiring knowledge and technology from external sources in the food industry is positively associated with innovation, it has not thoroughly investigated the effects of an acquisition of another firm on innovation of the acquiring firm.

#### *Innovation through acquisition*

Innovation is traditionally driven by internal activities and capabilities (Cohen and Levinthal, 1990) and external factors and pressures of the market (Arora et al., 2001). Success and competitive advantage depend on the ability of the company to integrate, build and reconfigure internal and external resources to address rapidly changing environments (Cohen and Levinthal, 1990; Chesbrough, 2003). In fact, innovation and knowledge management literature agree that product and process innovation performance increase with a larger internal knowledge base (Chesbrough, 2003).

For this reason, external knowledge can be seen as complementary of the internal one (Chesbrough and Crowther, 2006).

In this context, the growth of firms is indicated by scholars, experts and policy makers as one of the main strategic levers in order to enhance innovative capacity and to sustain competitive advantages. Often, acquisition of another firm is the more quickly and effective strategy to get firm growth (Ahuja and Katila, 2001). This operation can lead to several advantages including a better propensity for innovation, in terms of process and product (Adner and Levinthal, 2001). As for process innovation, acquisition can help achieving economies of scale and scope by reducing the average cost of production and creating synergies between complementary assets (Singh and Montgomery, 1987). Moreover, it can foster new organizational models and accessing the research and innovation capacity, a greater knowledge base and technology to introduce new products and services. According to Bower (2001), acquisitions occur for five reasons: to deal with overcapacity through consolidation in mature industry; to roll-up competitors in geographically fragmented industries; to extend into new products or markets; as a substitute for R&D; and to exploit industry boundaries by inventing an industry. Thus, the last three highlight that the acquisition of another firm is a strategic key to accelerate innovation, having access to new products, acquiring resource, technology and knowledge (Shuen et al., 2014).

More in particular, obtaining technological know-how and developing technical capabilities are increasingly important motives for acquisitions (Wysocki, 1997).

Some scholar proved evidence of positive effect of an acquisition on firm's innovativeness. In detail, an acquisition of a firm is viewed as an absorption of the acquired firm's knowledge base (Ahuja and Katira, 2001). Furthermore, such a process can potentially expand the acquirer's knowledge base and increase its innovation output by providing economies of scale and scope in research and by enhancing the acquirer's potential for inventive recombination (Fleming, 1999). Conversely, other scholars agree that acquisition can lead to negative effects on firm's innovativeness. Specifically, acquisition involves managerial issues, integration problems and transaction costs (Zollo and Singh, 2004). More specifically, Ahuja and Katira (2001) found that technological acquisitions enhance innovation performance while non-technological acquisition do not have a significant effect on subsequent innovation output. Certainly, the success of an acquisition also depends on the complementarity of the firms, but also on the approach to innovation and state of the firm's culture. In this context, the combination of tradition and innovation often plays a key role (Tushman and Nadler, 1986; Festa et al., 2015). In addition, culture and attachment to the land can foster the integration of two different realities, promoting the values of entrepreneurial tradition of a certain place and the



satisfaction of customers' perceptions about local cultures and natural elements and traditions (Vrontis and Thrassou, 2011).

The combination between tradition and innovation is often moderated by the factor "familiness" (Arregle et al., 2007; Carnes and Ireland, 2013; Sirmon and Hitt, 2003). In particular, family businesses have a strong sense of long-term investment and vision and tend to invest domestic resources in developing new products or improving processes, building competitive advantage based on the strong link between the traditional and innovation (Giacosa, 2012). This combination further enhances the brand identity of firm (De Chernatony, 2001). According to the resource-based view, acquisition helps in redeploying resources into a more productive uses and improve efficiency of the process combining strategic assets (Capron et al., 1998). In particular, the acquisition of another firm helps to promote integration between various tangible and intangible resources (Bruce and Hines, 2007) promoting the brand awareness and the exclusivity of the goods (Kapferer, 2002). In a market-oriented perspective, the intangible elements attract attention of the customers by playing on the five senses (Giacosa, 2012), and allow to involve them more and more in the buying experience (Flynn and Goldsmith, 1993).

Despite this rich background, innovation through acquisitions in the food industry remains neglected.

## METHODOLOGY AND CASE STUDY

As the proposed model has to represent best practice behaviour for the company in making innovation, our proposition is the following:

*For a full consideration of innovation, the model should be a combination of two critical factors: i) a combination between tradition and innovation; ii) a combination between several skills owned by Boella and Sorrisi before the acquisition.*

The methodology has been structured as follows:

- the first phase has been focused on a literature review, paying particular attention on innovation strategy in food sector, as well as a study of innovative strategies through acquisition;
- in the second phase we made a case study. The case study method permits to investigate and understand the phenomenon under investigation, avoiding a purely descriptive approach. In addition, the case study method permits to analyze the theories identified in the literature review in a real-life context (Yin, 2009).

We appreciated the case study method for several reasons. Firstly, the observed phenomenon is rather specific and determined by the specific features of the company and its context (Merriam, 1988). Secondly, the phenomenon under investigation has been analyzed in its real-life context, although a strong theoretical basis doesn't support it (Siggelkow, 2007). Thirdly, innovation in family business is

a phenomenon with a great relevance, in Europe and worldwide (Yin, 1984). Fourthly, thanks to the use of a “variety of lenses” in the case study, the way single variables act within the context could be understood (Eisenhardt, 1989), in addition to the multiple aspects of the phenomenon under investigation (De Massis and Kotlar, 2014). Lastly, the case study method permits to generate and test theories on the given topic (Siggelkow, 2007), creating relevant facts and improving the managerial field with new and interesting intuitions (Amabile et al., 2001).

Several source of information has been used (Eisenhardt, 1989). The main source of information was represented by semi-structured interviews (Corbetta, 2003) with Stefano Silvola (SS), the CEO of the company, in 2015 and 2016. He is involved in innovation-related decisions. We interviewed him two times to clarify some important topics. Each interview lasted about 2 hours and was conducted by two of the authors of the research. The answers were transcribed, and then autonomously analysed by three authors (Jönssön and Lukka, 2005), with the purpose to reduce the subjectivity of data interpretation. A comparison between individual interpretation of the results has been then made.

We used direct observations, for making a data triangulation (Yin, 1984). These were carried out in some shops in which the products are sold. Documentation was lifted from the company website, and interviews in economic, financial, and marketing magazines and websites with other family members (in particular, with Elena Boella (EB)— who represents the third generation of Boella and she’s involved in the management of the company.

#### *The case study: history*

Boella & Sorrisi is the result of the marriage between two historic artisan food family businesses: Boella has produced panettone since its beginnings in 1885, when the first **panettone and pastry workshop** was set up and is now in the third generation. Sorrisi was founded in 1960 by the historic Piedmontese family of chocolate makers, who delighted customers with **artisan products**, never compromising their production methods.

In October 2014, Boella stopped trading and Boella & Sorrisi was born after the acquisition of Sorrisi, which owned some excellent machinery.

The merger of the two companies was also marked by the marriage of Elena Boella from the third generation of the Boella family, to Stefano Silvola, master chocolatier and owner of Sorrisi.

Boella & Sorrisi is a small family business operating in the food sector, with about a dozen permanent employees and twenty or so specialised seasonal staff. With sales of around 2.5 million Euros, the company offers a wide and varied selection of Italian-made products and specialities, such as Boella Panettone, Easter eggs, Easter dove cake and various forms of chocolate. Turnover is equal distributed between baked goods, on one side, and chocolate, on the other.

The foreign market accounts for around 30% of the company's overall sales. Its main foreign market is Switzerland, with customers knowledgeable about both chocolate and panettone: a third of the company's panettoni are sold in Switzerland. Other important markets are France, Germany and Ireland, with strong growth in Australia, the United Arab Emirates and other countries.

## THE EFFECTS OF ACQUISITION ON INNOVATION

Boella & Sorrisi is the product of the merger of two already established family-owned manufacturers operating within niche segments of the food industry. The companies chose to "combine long-standing traditions to obtain a wide range of products" (EB). "The birth of Boella & Sorrisi has allowed us to achieve significant economies of scale, in terms of both product and process" (SS).

Below, is an analysis of the most salient effects of the birth of Boella & Sorrisi on products and processes. The format has been borrowed from a wealth of literature used to distinguish products from processes.

### A) Effects on products

Stemming from the marriage of two historic family-owned artisan food companies, the resulting product range is somewhat varied, "suitable to meet the different needs of consumers in panettoni, Easter dove cakes and chocolate" (EB):

- Boella panettone and Easter dove cakes: our panettoni "are from long-standing Boella family recipes, which are a guarantee of quality and unique flavour" (SS), in keeping with traditional artisan panettone. Panettone begins with a sourdough created from a natural leavening process and the packaged product is absolutely natural. This enables consumers to appreciate the final product. Panettoni are the company's hallmark and are made in an assortment of flavours from gianduja to chocolate and pear, etc. At Easter, traditional Easter dove cakes are another example of goodness available in classic, pear and chocolate, muscat, chocolate, crème patissière, sabayon and the uniquely fruity fig and pear. They are "one of the house specials from family recipes dating back to 1885, which are a guarantee of high quality and unique flavour" (SS). In addition to the product, "the handmade packaging is also beautifully detailed" (EB). The resulting product is perfect in every respect. Customers can obtain special packaging on request;
- chocolate: "the experience of our master chocolatiers along with the enthusiasm of our staff are our strengths when it comes to creating artisan products that are perfect in every respect" (SS), in particular, the famous Sorrisi di Torino, Gianduiotti, minigianduiotti, gourmet hand-decorated bars of chocolate, treats, pralines, praline, dragées, cremini, tartufi, hazelnut

creams. Within the production range, the Sorrisi di Torino was the first chocolate created by pastry chef Valerio Basso in 1949: "a delicious praline with rum cream enclosed in two of dark chocolate wafers and further covered with dark chocolate" (SS). The Sorrisi di Torino are produced in several tastes, such as coffee, orange-nut, rum, hazelnut, amaretto and limoncello flavours. Considered an excellent product, it has been awarded as "Artisan Excellence for the Piedmont region" and is available in the best-known cafés, confectionery shops and patisseries in Turin and Milan and in Harrods of London. Chocolate products are offered in all possible varieties, in order to meet different needs of customers: milk, dark chocolate, white chocolate, with Piedmont hazelnuts, spiced, with different compositions of cocoa to meet the demands of connoisseurs, with freeze-dried red fruits, Cyprus salt, Smarties for children, candied 70% to bring out the best in flavour;

- Ice cream: the sales outlet has a corner dedicated to gelato, everyone's favourite treat. It is an artisan product made from high quality, carefully selected raw materials - the same used for the delicious chocolates and Easter eggs, such as **dark chocolate**, **gianduja** and Langa **hazelnuts**. The typical flavours of creams are accompanied by the traditional flavours of fresh fruit, which are combined with semifreddo in winter. Sorrisi di Torino were the first chocolates in the product range to be created by pastry chef Valerio Basso in 1949. They are **delicious pralines** with rum cream enclosed in two dark chocolate wafers in turn **covered in chocolate**
- cosmetic line: the product range includes a line of chocolate-aroma cosmetics for the body. Thanks to its special characteristics and unique aroma, chocolate is great even for use in beauty products and cosmetics, making skin smooth and soft.

"This is a very varied range of products, which has allowed the company to offer customers a wide choice in confectionery: whether its panettone or chocolate. Although this has not doubled turnover, it has enabled customers to receive their supplies from a single source, thus facilitating the purchasing process" (SS).

Even after the birth of Boella & Sorrisi, tradition has been maintained in the selection of raw materials. These are carefully chosen and only the highest quality is selected (e.g. PGI Piedmont hazelnuts are much sought after by all chocolate manufacturers) and emulsifiers are not used. In keeping with standards of high quality, the product is not changed for different target markets (except for customised products). Discounts may be applied to the basic list price, depending on the customer.

Thanks to a highly flexible production structure, the company gives customers the chance to customise their orders. Private label production was created, which, for many years now, has also specialised in third party services for corporate events, weddings and birthdays, created from

customers' own recipes. In this sense, flexibility is a competitive advantage. Even though recipes differ from the brand's own products, private label production in no way tarnishes the company's image" (SS). This is a very interesting business stream, which enables systematic use of machinery for a certain period of time and yields a good turnover.

"We continue to produce for end consumers, even with Boella & Sorrisi" (SS). This is demonstrated by the focus on the choice of raw materials, which is a fundamental aspect that has always characterised the company's activities. This is how products for diabetics and weight-conscious foodies were born, in the shape of sugar-free products (which include innovative ingredients like sevitil).

With a vast assortment of niche products at their disposal, the company's main competitors are themselves niche companies. Competitors in the panettone sector are all Italian. The company has a competitive edge in the fact that Piedmont panettone is the best loved the world over, thanks to a strong presence of Italian immigrants on different continents, especially in Latin America. For example, in Brazil, panettone is eaten all year round, meaning consumption is high for twelve months. Its competitors in the chocolate sector are mainly in Belgium. Belgian companies have been fully industrialised for many years, but their products are still perceived as being handmade. Naturally, there is a big difference in price compared with an artisan company like Boella & Sorrisi, with industrialisation reducing production costs considerably. Swiss manufacturers are also competitors, although the company's products are very popular in Switzerland, which is a major market for it.

## **B) Effects on processes**

After the birth of Boella & Sorrisi, production processes were improved by the reinforcement of skills and by several economies of scale resulting from the combining of the strengths and expertise of the two companies.

Research and development are mainly conducted internally. The encounter between the respective knowhow of Boella and Sorrisi made it possible for research and development to be carried out internally. In particular, the knowledge and skills of Stefano Silvola were boosted by the sales packaging knowhow of Elena Boella. In addition to this, "the production and sales skills of the family members were reinforced by and combined with a series of external stimuli" (SS). These include suppliers of equipment, who are a source of innovation and improvement in productivity, customers, who may suggest an idea related to a new product or to revise of an existing product, consultants, especially on very technical aspects, such as labelling and food safety standards.

In terms of production, the strength of Boella & Sorrisi has been maintaining traditional values, albeit in an industrialised context. Beginning with carefully selected raw materials, "the company has maintained its artisan processing, but has industrialised the more basic stages of production. For

example, chocolate bars are decorated and filled by hand, but are poured by machine. This has led to the mechanisation of production, with a thousand bars produced per hour, while three people decorate by hand"(SS). Furthermore, certain production techniques have been kept, such as the manual processing of chocolate, "by modelling it on the old marble table used by the previous generation, which has been incorporated into a steel frame" (SS). This means that a niche product can be made, with the advantage of a good production capacity (e.g. 80 kg of gianduja are produced per hour). The final result is that of a "hand-produced product where every detail has been considered, which could not be achieved by a confectioner without the aid of a production line" (SS).

Furthermore, by strengthening the soundness of the company, Boella & Sorrisi have been able to create a modern plant of over 1,000 square metres in Turin (a city renowned for its time-honoured production of panettone and chocolate), opened in 2014, where all production takes place and "the traditional techniques are combined with modern machinery" (SS).

Moreover, a sounder organisation has enabled the continuous renewal of production plants. "Continuous study and research into new production methods has required new machinery" (SS). These include investments in machines that produce creams, removing palm oil (not recommended for a healthy diet). For example, through a partnership with a manufacturer of hydrolysed proteins, the company has been able to use casein (which is more readily available to the body and easy to digest) as a viable alternative to emulsifiers.

The heady scent of vanilla, almonds, toasted hazelnuts and chocolate permeate the factory. As you cross the threshold of the workshop you are met by a warm and elegant atmosphere, which seems unchanged since the nineteenth century. The contribution made by human resources is important: "the experience of our Master Chocolatiers along with the enthusiasm of our staff are our strengths when it comes to creating artisan products that are perfect in every respect" (SS). For baked products, too, the specialised staff are critical to ensuring a quality end product and respecting family traditions. Boella & Sorrisi invests heavily in packaging, so that the product is a combination of both tangible and intangible factors. In the past, "Sorrisi did not pay so much attention to packaging: the knowhow of Boella has certainly facilitated this marketing approach" (SS).

The focus on packaging is possible thanks both to the dedication and the contribution of family members (in particular, Elena Boella and Stefano Silvola) and to a series of partnerships with some suppliers of materials, as well as the company's attendance of the most important international packaging fairs. The suppliers in close contact with the family have enabled the creation of a series of packaging alternatives, using new and alternative materials that are safe for the consumer. "Packaging is thus designed to achieve a high level of usability in relation to the consumer's needs" (SS).

The company creates an “attractive product” for packaging-conscious consumers (EB), using colour to convey the image of an event combined with a product for consumption. An example of this is panettone wrapped in gold packaging designed for the Swiss market, where customers can taste and enjoy fine Piedmontese panettone and recognise its value. Or hand-decorated chocolate pralines wrapped in elegant packaging.

The resulting packaging has considerable advantages compared to traditional presentation, in terms of functionality and a reduction in production costs (it is less expensive and is more lightweight for transportation purposes). At the same time, the beauty of the packaging makes it highly appealing to the public, as a result of the feasibility study of the product on different targets: colourful packaging for children's chocolate, practical jars for chocolates to be kept at home and within the reach of children and sophisticated panettone for a more discerning adult target.

In terms of sales, “the birth of Boella & Sorrisi has brought considerable advantages, since all sales channels apply to the entire product range”. Wholesalers, shopkeepers, the company’s own outlets all supply customers with baked goods and chocolate products alike.

After the birth of Boella & Sorrisi, the company shop was expanded. In an area of 180 square metres, customers can taste the company’s products, along with other regional specialties, sweet truffles, Piedmont hazelnut cakes, tarts, artisan croissants, soft and crumbly amaretti biscuits, torcetti, sponge fingers, zwieback rusks, gianduja cri-cri, drop sweets, lollipops, herbal teas and infusions. They can also directly observe the activities of the production workshop. As you walk amongst the shelves, you can watch the careful pastry workers busy in the production and packaging of each product. You can visit the production area in the company of an expert and passionate guide: adults and children alike will be fascinated.

The entire product range is exhibited at trade fairs (both baked goods and chocolate). The choice is highly selective: “requiring a large investment, the company selects a number of important events to increase visibility and growth” (SS). Although the idea is not to sell products during the fair, but to be present, the company has chosen two highly visible international exhibitions: Cibus and Tutto Food.

The sales network is coordinated by family members, each with specific skills. Stefano Silvola is responsible for getting contacting customers after the fairs, while Elena Boella manages the entire sales process. A network of agents and distributors is involved in the marketing and sale of the entire product range, offering customers a wide selection of confectionery. “This makes it easier to supply a wide range of products from a single source, facilitating and simplifying the order process” (SS). Furthermore, when important customers are invited to the company premises, they can learn close-up the art of artisan confectionery for baked goods and chocolate. “The company brand is enhanced thanks to knowhow in many areas brought together by the birth of Boella & Sorrisi”. It certainly

benefits from the reputation of Italian food, which "is well recognised throughout the world, especially by more discerning consumers. This factor increases the interest of foreigners in high quality Italian products, which act as a driver for the sale of our products "(SS).

## DISCUSSION AND CONCLUSIONS

The Boella & Sorrisi business model is a combination of several ingredients:

- a strong blend of tradition and innovation;
- a combination of various skills held by Boella and Sorrisi individually.

Even after the set-up of Boella & Sorrisi, the company held on to a strong mix of tradition and innovation (Festa et al., 2015). Its manufacturing is based on traditional methods involving a balance of tradition and innovation. This is seen in the attention devoted to new technologies applied to a traditional approach, with a focus on combining product/process (Adner and Levinthal, 2001):

- tradition comes from the experience of the two families and a brand (Boella) dating back to 1885. Tradition means the respect of family values, for generations (Giacosa, 2012; Tushman and Nadler, 1986); this choice is respectful of its DNA from the beginning (Festa *et al.*, 2015). Tradition is a value that is recognised by consumers, who stayed loyal to the company even after the merger of the two names. Strong local roots are also a key factor in tradition. Turin is renowned for its chocolate heritage (along with Perugia and Modica), and is the birthplace of chocolate. Local roots are a key aspect in the safeguard of a number of values relating to the business tradition of a place, handed down through the generations, and facilitating the satisfaction of customers' perceptions about local culture and natural elements and traditions (Vrontis and Thrassou, 2011);
- innovation is seen in the various stages of the production and distribution chain. In particular, in its selection of raw materials, the company has opted for innovative materials, which can meet the needs of consumers and safeguard their well-being (e.g. by using casein as an emulsifier and steviol instead of sucrose), for a healthy lifestyle (Bigliardi and Galati, 2013). Innovation is seen in the mechanisation of the production process: the most basic stages of the chocolate production process have been industrialised to achieve high productivity. Innovation means a close approach to the dual concept of "product/process" (Giacosa, 2012). The end result is an attention to detail that a traditional confectioner cannot achieve at the same rate of production. Even in commercial choices, innovation is seen in the process of customisation: the adoption of private labels, created from customers' own recipes and requiring good levels of production flexibility, is a competitive advantage, which increases revenue without tarnishing the company brand. Innovative strategy is primarily conducted



internally (Chesbrough, 2003), as usually in small and medium-sized family firms where R&D activities are not typically formalized (Dyer and Handler, 1994): on one side, in carrying out R&D activities, family members respect tradition and corporate values; on the other, a comparison to external individuals helps the company to reach the goal, behind the times. It permits a generation and diffusion of creativity (Bresciani and Ferraris, 2014; Dias and Bresciani, 2006).

The combination between tradition and innovation is typical connected to the “familiness” factor (Arregle et al., 2007; Carnes and Ireland, 2013; Sirmon and Hitt, 2003), which is a set of unique, distinctive and tacit abilities and resources deriving both from the interaction of family members and the family’s involvement in the business. The familiness may be considered as a key factor influencing the competitive advantage.

Secondly, with the birth of Boella & Sorrisi, the combining of various skills possessed individually by the companies brought several benefits:

- significant economies of scale and scope were achieved in production, sales and administration (Fleming, 1999), thanks to the complementariness of Boella and Sorrisi (Ahuja and Katira, 2001; Bower, 2001). These economies of scale and scope have increased their competitiveness on that market. In terms of research and development, the combining of their knowhow has led to a strong degree of internal innovation, albeit with the aid of external outside stimuli (Arora et al., 2001). Indeed, Boella & Sorrisi has shown a certain competitive advantage in integrating, building and reconfiguring the resources previously owned by the two companies (Ahuja and Katira, 2001). This is doubtless due to a great wealth of internal knowhow (Cohen and Levinthal, 1990; Chesbrough, 2003). Of course, the acquisition of Sorrisi by Boella & Sorrisi accelerated the innovation process (Birkinshaw et al., 2000; Shuen et al., 2014). In terms of production, some human resources are able to operate on both the panettone line and on the chocolate line, if needed. In terms of sales, promotion is managed as a whole, with the focus on the entire product range. The leading character is good Italian food in all its varieties and this is enhanced by the brand’s identity (De Chernatony, 2001), which is closely linked to the family identity. In terms of administration, the creation of Boella & Sorrisi has encouraged significant economies of scale, since combined company accounts and the merging of several administrative aspects has led to significant cost reductions;
- the brand and market visibility have been strengthened: the previously held production and commercial knowhow has affected consumer perception, creating the image of a company operating in a broad and competitive manner within the confectionery sector. Consumer perception has certainly been influenced by the combination of tangible and intangible

elements (Bruce and Hines, 2007) which have favoured the success of its product range. The high quality of raw materials is one of these factors and has in no way been compromised. Even when the price of raw materials has increased sharply (e.g. PGI Piedmont hazelnuts and cocoa), the quality of raw materials has remained high and the company has not changed its traditional recipe, at the cost of accepting a smaller profit margin. Hence, the sale price is justified by the intrinsic content of the product and the manual labour involved. Furthermore, the variety of confectionery products is representative of the reputation of the vast range of Italian local products. Intangible elements attract the consumer's attention by playing on the five senses (Giacosa, 2012). This is achieved not only by the historic brand, but also the local factor, which, in the food industry, is synonymous with tradition. The high quality packaging is very appealing to consumers and engages them in the shopping experience (Flynn and Goldsmith, 1993). Intangible elements are, hence, strongly enhanced by a multi-sensorial strategy. The combination of tangible and intangible aspects fosters and enhances long-term authenticity and prestige, as well as brand awareness, thereby increasing the exclusivity of the product and its regional identity (Kapferer, 2002).

This study has some limitations. First, we presented only a single acquisition, thus we are mindful of the representativeness of this case study. Therefore, it could be useful to widen the scope of the research in order to also compare how change the management of innovation strategies through an acquisition. Future development of this research will focus on other representative case studies in the food sector. Second, we focused to only certain aspects, namely product and process innovation. Third, in relation to the interview technique, we would set out to increase the number of interviews, by also questioning managers and employees working in the company, and not only the CEO, even if he gave us relevant and detailed information.

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## DRIVERS OF CUSTOMER LOYALTY IN FAST FASHION RETAILING: DO THEY VARY ACROSS CUSTOMERS?

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### ABSTRACT

Although consumer behaviour patterns have become very important in retailing, consumer-driven research is still limited in this area. The purpose of this paper is to empirically test the effects of perceived value; satisfaction, and trust on customer loyalty in fast fashion retailing and to investigate the stability of these effects across different customer segments. A total of 700 customers of a fast fashion retail chain were interviewed and PLS-PM was used for data analysis. Results show that customer loyalty is mainly affected by perceived value and satisfaction and to a lesser extent by trust. Perceived value is the main driver of satisfaction and trust, while satisfaction exerts a significant but small effect on trust. Cluster analysis resulted in four specific customer segments with different behaviour, performance-oriented; value-oriented; experience-oriented, and relationship-oriented. Results present important managerial implications for fast fashion retailers.

**Keywords:** *Perceived value, Customer Loyalty, Consumer Behavior, Fast Fashion Retailing.*

### INTRODUCTION

Although fast fashion emerged as a response to changes in customer needs, most relevant literature focuses on supply-chain theory and the consumer-driven approach is still an under-researched area (Bhardwaj and Fairhurst, 2010). As a result, in recent years, a new mainstream approach focuses on the consumer's role in the fast fashion phenomenon (Bhardwaj and Fairhurst, 2010; Choi et al., 2010; Cachon and Swinney, 2011; Joung, 2014). Although there are many studies investigating the drivers of customer loyalty in the general fashion retailing context (e.g. Marzo-Navarro et al. 2004; Carpenter and Fairhurst, 2005), no other study has looked at customer loyalty and its antecedents in fast fashion retailing. Furthermore, previous research has shown that customers differ in their behaviour in fast fashion retailing based on various demographic characteristics (Crewe and Davenport, 1992; Sydney, 2008; Sung and Jeon, 2009). Nevertheless, research is still young in this area and there is no agreement between researchers.

The purpose of this study is to empirically test the effect of perceived value; satisfaction and trust on customer loyalty in a fast fashion retailing context and to explore whether there are any differences in the relationships between perceived value; satisfaction; trust, and loyalty across different customer segments that are formed based on customers' demographic characteristics in Greece.

The paper is structured as follows. First, we review the literature and present the rationale of the study; then we present the conceptual framework and the research hypotheses used; thirdly, we describe the methodology used; fourth we explain the results of the study, and we conclude with managerial and theoretical implications; limitations, and suggestions for future research.

## CONCEPTUAL BACKGROUND AND RESEARCH HYPOTHESES

The literature suggests that the phenomenon of fast fashion emerged and has evolved as a response to a change in consumers' fashion product purchase behaviours that expressed the emergence of new needs and requirements (Barnes and Lea-Greenwood, 2006). However, there is little research to analyse consumer behaviour in this context. Cachon and Swinney (2011) focus on the impact of the quick response technique and enhanced design on consumer purchasing behaviour in the store. Also, Choi et al. (2010) examine consumer behaviour and preferences towards different types of extensions in fast fashion brands. Nevertheless, no previous study has analysed customer loyalty and its drivers. Both researchers and practitioners have recognized the importance of customer loyalty for firms since it contributes to increased repurchase volume; better acquisition rates from positive word-of-mouth communication (Aksoy et al., 2013); lower customers' price sensitivity (e.g. Zeithaml et al., 1996); less cost and capital investment requirements (Oliver, 1999), and improved service providers' profitability (Hayes, 2008).

The principal antecedents of customer loyalty that have been identified are customer satisfaction, trust and perceived value (e.g. Forgas et al., 2010; He et al. 2012). Satisfaction is viewed as an affective response that results from a cognitive process of evaluating the extent to which a product/service provides a pleasurable level of fulfilment of customer's needs and wants after a single or multiple transactions (Oliver, 1999). There are many previous studies showing that satisfaction antecedes loyalty in the retailing services context (e.g. Fullerton, 2005; Walsh et al., 2008; Forgas et al., 2010; Krystallis and Chrysochou, 2014; Veloutsou, 2015). Furthermore, trust has been shown to affect the establishment and development of customer relationships; customer loyalty, and brand equity (e.g. Chaudhuri and Holbrook 2001; Delgado-Ballester and Munuera-Alemán, 2005, Albert and Merunka, 2013; Veloutsou, 2015). Also, previous studies have posited that satisfaction is an antecedent of trust (e.g. Delgado-Ballester and Munuera-Alemán, 2005; Aurier and N'Goala, 2010). Therefore, we can hypothesize the following:

H1: Customer satisfaction directly and positively affects customer loyalty

H2: Customer trust directly and positively affects customer loyalty

H3: Customer satisfaction directly and positively affects customer trust

Moreover, various studies have identified a direct relationship between perceived value and customer loyalty, but also a significant influence of perceived value on customer satisfaction (e.g. Marzo-Navarro et al. 2004; Carpenter and Fairhurst, 2005; Forgas et al., 2010; He et al., 2012) and customer trust (Harris and Goode, 2004; He et al., 2012; Aurier and N'Goala, 2010). The value-satisfaction relationship is justified by the fact that when firms provide services with utilitarian and hedonic benefits that exceed customer expectations, customers will experience a pleasurable experience that will be expressed as satisfaction (Marzo-Navarro et al. 2004; Carpenter and Fairhurst, 2005). The value-trust relationship is attributed to the fact that the perceived benefits of a relationship, such as perceived functional quality aspects, precede trust (e.g. Forgas et al., 2010; Athanasopoulou, 2009; Giovanis et al. 2015). Therefore, it might be hypothesized that:

H4: Perceived value directly and positively affects customer loyalty

H5: Perceived value directly and positively affects customer satisfaction

H6: Perceived value directly and positively affects customer trust

Several previous studies have provided empirical evidence that certain demographic variables can be used to define customer typologies in the retail context (e.g. Theodoridis and Chatzipanagiotou, 2009). Nevertheless, it is not clear how and in what extent specific demographic variables affect consumer behaviour in terms of perceived value formulation and in the way that perceived value; satisfaction; trust, and loyalty interact with each other in the retailing context (Kim and Jin, 2001; Sung and Jeon, 2009). Thus, this study further investigates the interaction among perceived value; satisfaction, and trust as they all affect customer loyalty in order to detect how customer demographics such as age; gender; educational background; family cycle, and profession affect these relationships.

## RESEARCH METHODOLOGY

A standardized self-administrated questionnaire was used in a survey of 700 randomly selected customers of three different ZARA stores in Athens, Greece. Interviewers randomly selected respondents outside ZARA shops; asked them to participate in the study, and to complete the questionnaire. The fieldwork took place during the first quarter of 2015. Overall, 620 usable questionnaires were collected. Among the 620 respondents, 64% of the respondents were female. Forty percent (40%) were single, 17% were married without children, 28% were married with children at home, 12% were married with no children at home and 3% were widows/widowers. Eleven percent (11%) of the subjects were in the 18-24 age group, 34% were in the 25-34 age group, 25% were in 34-44

age group, 15% were in the 45-54 age, group and 15 were more than 55 years old. In terms of educational background, 43% had at most a high school degree, 10 had vocational training 32% had a graduate degree and 15% had a postgraduate degree. Finally, 39% were private sector employees, 12% were public sector employees, 16% were self-employed/ entrepreneurs, 7% were pensioners, 11% were university students, 7% were housekeepers, and the participation of all other professions was 9%.

The items of the questionnaire were adopted from existing and well tested scales offered by the extant literature. Perceived value is conceptualized with the GLOVAL scale, a multidimensional scale proposed by Sanchez et al. (2006), which considers post-purchase value as a higher-order construct made up by six sub-dimensions reflecting its functional (functional value of the installations of the establishment; functional value of the contact personnel; functional value of the product (Quality); functional value price); emotional, and social benefits. The scales used to measure functional value of the installations of the establishment and personnel were retrieved from the study of Sanchez et al. (2006), while those used to measure functional value of the product, functional value price, and emotional and social benefits were retrieved from the study of Sweeney and Soutar (2001). Following Zeithaml et al. (1996), customer loyalty is also modelled as a multidimensional construct having three different facets of it as its sub-components (i.e. service providers' ability to retain their customers, paying price premiums and spreading positive/negative referrals to other about their service providers' performance). The scales proposed by Sanchez-Franco et al. (2009) were used to measure customers' repurchase intention, spreading of positive referrals, and price sensitivity. Moreover, based on the fact that previous studies confirmed discriminant validity between perceived value dimensions (Sanchez-Franco et al., 2009) and between customer loyalty dimensions (Lin et al., 2005; Leroi-Werelds et al., 2014), these two constructs are measured as second-order formative rather as reflective constructs. Finally, the scales proposed by Han et al. (2008) were used to measure customer satisfaction and trust. Cluster analysis was used to segment the study participants based on their demographic characteristics (Hair, 2010) and Partial Least Square Path Methodology (PLS-PM) was used to assess the measurement and the structural model, and test the significance of the model for the pool sample and across different customer segments (Hair et al., 2011). PLS-PM with Smart PLS 2.0 M3 (Ringle et al., 2005), was preferred over covariance-based SEM to test the measurement and the structural model because it permits the simultaneous testing of hypotheses and enabling the use of both reflective and formative constructs, while statistical identification with formative models is difficult for covariance-based SEM methodologies (Hair et al., 2011).



## RESULTS

Data analysis involved a two-phase approach in order to assess the reliability and validity of the measures before using them in the research model. The first phase includes the analysis of the measurement model, while the second one, examines the relationships between latent constructs.

### *Measurement Model Assessment*

Individual item reliability is adequate when an item has a factor loading greater than 0.7 on its respective construct, which implies more shared variance between the construct and its measures than the error variance (Hair et al., 2011). The factor loadings of all items, as shown in Table 1, exceed the threshold value of 0.7 providing strong support for the item reliability of the latent constructs.

Latent variable			Nbr of items	Loadings range	Cronbach's alpha	Composite reliability	AVE
Functional professionalism)	Value	(Personnel	3.00	0.87-0.93	0.90	0.94	0.84
Functional Value (Installations quality)			3.00	0.73-0.92	0.83	0.90	0.75
Functional Value (Product quality)			6.00	0.81-0.90	0.93	0.94	0.74
Functional Value (Price)			4.00	0.88-0.93	0.93	0.95	0.84
Emotional Value			4.00	0.91-0.94	0.93	0.95	0.82
Social Value			4.00	0.91-0.94	0.94	0.96	0.85
Satisfaction			3.00	0.80-0.94	0.88	0.93	0.81
Trust			4.00	0.85-0.92	0.93	0.95	0.83
Repurchase intentions			3.00	0.96-0.97	0.96	0.98	0.93
WOM			3.00	0.95-0.97	0.96	0.97	0.92
Price tolerance			3.00	0.95-0.97	0.96	0.97	0.92

*Table 1: First-order constructs' psychographic properties*

The reliability of all constructs was examined using the Cronbach's Alpha (CA) and Composite Reliability (CR) measures. Hair et al. (2011) suggest that a value of 0.70 provides adequate evidence for internal consistency. As shown in Table 1, CA and CR values of all measures included in the study exceed 0.83 and 0.90 respectively, suggesting that all measures were good indicators of their respective components. The average variance extracted (AVE) was used to assess convergent validity. The AVE value for each construct, as shown in Table 1, is above 0.74, indicating convergent validity, since all AVE values exceed the recommended cut-off value of 0.5 (Hair et al., 2011). Finally, the discriminant validity among first-order constructs is examined by investigating their correlation (Table 2). The inspection of the matrix shows that the AVE extracted from each construct, is higher than its shared std. deviation (Hair et al., 2011). Therefore, all constructs in the proposed model satisfy the discriminant validity criterion.

	1	2	3	4	5	6	7	8	9	10	11
Funct. Value (Personnel professionalism)	0.84										
Funct. Value (Installations quality)	0.46	0.75									
Funct. Value (Product quality)	0.41	0.49	0.74								
Funct. Value (Price)	0.22	0.24	0.43	0.84							
Emotional Value	0.32	0.42	0.52	0.25	0.82						
Social Value	0.19	0.30	0.39	0.20	0.44	0.85					
Satisfaction	0.53	0.50	0.59	0.37	0.43	0.28	0.81				
Trust	0.41	0.44	0.57	0.35	0.40	0.33	0.53	0.83			
Repurchase intentions	0.31	0.34	0.46	0.23	0.32	0.15	0.53	0.38	0.93		
WOM	0.37	0.40	0.52	0.34	0.42	0.29	0.51	0.50	0.53	0.92	
Price tolerance	0.20	0.21	0.28	0.22	0.25	0.31	0.32	0.35	0.17	0.36	0.92

Table 2: Discriminant validity assessment

The measurement quality of perceived value and customer loyalty, conceptualized as a formative second-order factor, was tested following the suggestions of Diamantopoulos and Winklhofer (2001). First, the correlations among the first-order constructs for each second-order construct were examined. The average correlation among the six first-order perceived value related dimensions is 0.59 and among the three first-order loyalty related variables is 0.58. This indicates that perceived value and customer loyalty are better represented as a formative rather than a reflective second-order constructs, since the latter usually exhibits extremely high correlations ( $\geq 0.80$ ) among first-order factors (Pavlou and El Sawy, 2006). Furthermore, as it is shown in Table 3 (under the column “pool sample”), the first-order value- and loyalty-related components have significant path coefficients in forming customers’ perception about perceived value and loyalty respectively. Also, the variance inflation factors (VIF) were computed for these first-order sub-dimensions to assess multicollinearity. The VIF values for the perceived value dimensions vary from 1.78 to 3.44 and those of customer loyalty from 1.56 to 2.76. Since that all VIF values are less than 10, multicollinearity is not a concern for this two formative specified constructs (Diamantopoulos and Winklhofer, 2001).

#### Structural model results

The PLS-PM method was also used to confirm the hypothesized relationships between constructs in the proposed model. The significance of the paths included into the proposed model was tested using a bootstrap resample procedure. The PLS analysis results are presented in Table 3 (under the column “pool sample”) that also includes the results from the second-order constructs’ assessment previously analysed.

Criteria	Pool sample	Seg. 1 (performance-oriented)	Seg. 2 (experience-oriented)	Seg. 3 (value-oriented)	Seg. 4 (relationship-oriented)
Size	100%	11%	32.5%	40.8%	15.8%

	Coefficient (t-stat)	Coefficient (t-stat)	Coefficient (t-stat)	Coefficient (t-stat)	Coefficient (t-stat)
Shopping Value (Second-Order Formative Construct)					
FVP→PV	0.23 (71.08)	0.21 (6.03)	0.26 (24.43)	0.21 (25.22)	0.26 (11.76)
FVI→PV	0.20 (56.73)	0.16 (3.43)	0.24 (22.25)	0.20 (21.01)	0.13 (6.61)
FVQ→PV	0.29 (70.84)	0.35 (8.48)	0.27 (21.16)	0.28 (24.84)	0.26 (11.61)
FVPR→PV	0.18 (62.19)	0.16 (5.45)	0.16 (16.79)	0.21 (26.06)	0.19 (12.87)
EV→PV	0.18 (49.67)	0.13 (2.95)	0.20 (17.44)	0.15 (15.30)	0.19 (9.62)
SV→PV	0.15 (48.61)	0.15 (3.95)	0.14 (15.17)	0.15 (16.59)	0.19 (10.28)
Customer Loyalty (Second-Order Formative Construct)					
PRI→CL	0.41 (8.98)	0.45 (13.93)	0.47 (10.34)	0.39 (8.59)	0.37 (10.33)
WOM→CL	0.45 (9.03)	0.34 (9.22)	0.33 (6.15)	0.53 (10.21)	0.50 (14.42)
PRT→CL	0.30 (8.39)	0.36 (14.13)	0.43 (11.07)	0.21 (5.27)	0.29 (11.23)
Structural Model					
PV →SAT	0.84 (30.56)	0.86 (11.09)	0.78 (14.10)	0.86 (21.70)	0.89 (15.51)
PV→TR	0.65 (12.17)	0.58 (3.87)	0.71 (8.24)	0.73 (8.34)	0.85 (5.06)
SAT→TR	0.18 (3.26)	0.32 (2.10)	0.11 (1.26)	0.11 (1.24)	-0.06 (-0.33)
PV→CL	0.35 (6.22)	0.20 (1.54)	0.48 (5.16)	0.52 (5.11)	0.18 (1.23)
SAT→CL	0.33 (6.67)	0.54 (4.65)	0.29 (3.79)	0.24 (2.84)	0.35 (2.87)
TR→CL	0.23 (5.13)	0.11 (2.14)	0.14 (1.84)	0.13 (1.68)	0.44 (4.70)
Model's Performance					
R <sup>2</sup> (SAT)	0.70	0.75	0.61	0.74	0.80
R <sup>2</sup> (TR)	0.65	0.76	0.60	0.69	0.65
R <sup>2</sup> (CL)	0.72	0.88	0.72	0.71	0.82

**Notes:** Functional Value-Personnel professionalism (FVP); Functional Value-Installations (FVI); Functional Value-Product quality (FVQ); Functional Value-Price (FVPR); Emotional Value (EV); Social Value (SV); Perceived Value (PV); Satisfaction (SAT); Trust (TR); Repurchase intentions (RPI); Word-of-Mouth (WOM); Price tolerance (PRT); Customer Loyalty (CL)

*Table 3: Structural model results for pool sample and across customer segments*

The results indicate that in the formation of perceived value, functional value benefits are more significant than emotional and social benefits. Among functional benefits, product quality is the most important determinant of perceived value followed by the benefits related to personnel professionalism; installation quality, and price. Perceived value is the most important influencing variable for customer satisfaction and trust, while satisfaction slightly enhances the impact of perceived value on trust. The variables that most influence customer loyalty are perceived value and customer satisfaction followed by trust. Therefore, hypotheses H1 through H6 are all confirmed. The proposed model accounts for 70% of the variance in satisfaction, 65% of the variance in trust, and 72% of the variance in loyalty.

Furthermore, a hierarchical cluster analysis was implemented using gender; age; educational background, and family cycle. Four customer segments were emerged mostly related with the customers' lifecycle and profession. A one-way ANOVA analysis revealed significantly different loyalty levels among the four segments. Finally a PLS analysis for each segment were conducted aiming to detect the existence of different behaviors among the emerged customer profiles. The results

concerning the customers' type and their related behavior were used to profile the relevant segments as follows: Performance-oriented (11%) - Most loyal customers. Female, singles, aged 18-24, high school degree, do not work. Perceived value is mainly determined by Functional value/product quality. Satisfaction is main determinant of customer loyalty followed by trust. Perceived value only indirectly affects loyalty through satisfaction and trust. Satisfaction affects trust. Relationship-oriented (15.8%) - Very loyal customers. Male and Female, retired, with children not at home, aged 55+, graduate degree. Perceived value is mainly determined by employee professionalism and social value. Trust is the main determinant of loyalty followed by satisfaction. Perceived value only indirectly affects loyalty through satisfaction and trust. Experience-oriented (32.5%) - Rather loyal customers. Female, singles, aged 25-34, graduate or post-graduate degree, private employees. Perceived value is mainly determined by personnel professionalism; installation quality and emotional value. Perceived value and satisfaction determine loyalty, while the effect of trust is not significant. Perceived value is the only determinant of both satisfaction and trust since the impact of satisfaction on trust is insignificant. Value-oriented (40.8%) - Least loyal customers. Female, married with children at home, aged 35-55, high school degree, public and private employees. Perceived value is mainly determined by functional value/product quality and functional value/price. Perceived value and satisfaction determine loyalty, while the effect of trust is not significant. Perceived value is the only determinant of both satisfaction and trust since the Impact of satisfaction on trust is insignificant. The effect of perceived value is stronger than in the experience-oriented segment.

## DISCUSSION OF FINDINGS AND IMPLICATIONS

The aim of this study was to identify the drivers of customer loyalty in the fast retailing industry and then investigate their variance across different customer segments. The findings suggest that, in accordance with previous studies in the field of relationship marketing, perceived value, customer satisfaction and trust significantly determine customer loyalty. Moreover, the results show that retail customers in fact differ in their behaviour towards fast fashion retail stores and brands. This means that consumer behaviour towards the fashion product is not trans-generational as previous research has argued (Christopher et al., 2004; Bhardwaj and Fairhurst, 2010). Not all customers look for affordability and variety of alternatives and are willing to sacrifice product quality. Young people differ from middle-aged adults and from older consumers. Therefore, the results of this study pose significant challenges for fast fashion retailers.

As far as the benefits mix formulation and its effect on customer's responses is concerned, although product quality is the most important functional benefit for perceived value, personnel professionalism; installation quality, and price are also important. Therefore, service mix management issues such as the

quality of personnel and the environment of the store should be primary considerations for fast fashion retailers in addition to product quality. The direct effect of perceived value on customer loyalty is lower than its indirect effect through satisfaction and trust. This means that customer loyalty depends highly on whether customers are satisfied by the value of the shop's offer and on whether they trust the provider. Therefore, the development of relationships with customers is beneficial even in the fast fashion context in order to boost trust and satisfaction and consequently affect customer loyalty.

The findings have also shown that it is possible to effectively segment customers in fast fashion retailing based on their demographic characteristics. Such segmentation can help retailers satisfy their customers better; enhance buyer-supplier relationships and increase customer retention that affects profitability. Specifically, the following suggestions can be implemented by retailers to manage effectively the different segments identified: 1) Older customers value employee professionalism and social value and are oriented towards relationships. Therefore, retailers should try to enhance relationships with older customers by releasing a special line for such consumers or involve them in customer loyalty programs. The older consumer segment has been identified as one with great prospects in many industries due to its time availability and high disposable income. It seems that fast fashion retailers should also target this segment because it has a good potential profitability and is made up from both men and women and most importantly because they seem to be very loyal customers. 2) Experience-oriented consumers are mostly females and value employee professionalism and installation quality as well as the emotional value of shopping in the store. They need to like the experience as well as the product. Therefore, retailers that target this segment should enhance the in-store experience in order to increase their loyalty. 3) Young consumers are mostly women that do not work and therefore have limited income to spend on apparel but they are the most loyal customers. They value product quality and are oriented towards product performance. So, if retailers emphasize such quality in their communication with young consumers, customer satisfaction will increase and this will also affect trust and loyalty. 4) Value-oriented consumers represent the largest segment of the sample and look for a good product quality at a good price. However, they are not at all loyal and will switch easily retailer if they find a better deal. So, they are the least suitable segment for developing relationships and therefore may not be very profitable in the future.

Based on the above it is evident that the knowledge of the preferences of distinct consumer groups is useful in the development of appropriate marketing communications and promotional strategies, as well as for designing installations configurations and managing appropriately personnel performance that are likely to generate brand patronage and repatronage due to the value creating potential which is based on customers shopping wants and needs.

## LIMITATIONS AND SUGGESTIONS FOR FURTHER RESEARCH

This study looks at consumer behavior patterns of consumers in fast fashion retailing. However, the sample is drawn from the customers of one retailer in one country. Future research can test our conclusions in multiple firms; industries, or countries and with a wider sample.

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## MANAGING THE ETHICAL DIMENSIONS OF BRAIN-COMPUTER INTERFACES IN EHEALTH: AN SDLC-BASED APPROACH

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### ABSTRACT

A growing range of brain-computer interface (BCI) technologies is being employed for purposes of therapy and human augmentation. While much thought has been given to the ethical implications of such technologies at the 'macro' level of social policy and 'micro' level of individual users, little attention has been given to the unique ethical issues that arise during the process of incorporating BCIs into eHealth ecosystems. In this text a conceptual framework is developed that enables the operators of eHealth ecosystems to manage the ethical components of such processes in a more comprehensive and systematic way than has previously been possible. The framework's first axis defines five ethical dimensions that must be successfully addressed by eHealth ecosystems: 1) beneficence; 2) consent; 3) privacy; 4) equity; and 5) liability. The second axis describes five stages of the systems development life cycle (SDLC) process whereby new technology is incorporated into an eHealth ecosystem: 1) analysis and planning; 2) design, development, and acquisition; 3) integration and activation; 4) operation and maintenance; and 5) disposal. Known ethical issues relating to the deployment of BCIs are mapped onto this matrix in order to demonstrate how it can be employed by the managers of eHealth ecosystems as a tool for fulfilling ethical requirements established by regulatory standards or stakeholders' expectations. Beyond its immediate application in the case of BCIs, we suggest that this framework may also be utilized beneficially when incorporating other innovative forms of information and communications technology (ICT) into eHealth ecosystems.

**Keywords:** *eHealth ecosystems; brain-computer interfaces (BCIs); systems development life cycle (SDLC); health care ethics; business ethics; IT management; technological innovation*

### INTRODUCTION

A diverse and growing array of brain-computer interface (BCI) technology is being employed for purposes of therapy and, increasingly, human augmentation. Much thought has been given to the ethical aspects of BCIs; however, such ethical analyses typically view BCIs from the perspective of Innovation, Entrepreneurship and Digital Ecosystems

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polymakers who must decide whether or not such technologies should be legal or of individual users for whom a BCI creates new opportunities and risks. Relatively little attention has been given to the ethical aspects of BCIs from the perspective of the managers of eHealth ecosystems who are charged with successfully incorporating new forms of information and communications technology (ICT) like BCIs into those environments. Such a lack of research and best practices is problematic, given the fact that managers who handle the practical details of implementing BCIs within eHealth ecosystems may discover ethical issues that were not foreseen by policymakers and which ordinary end users are not able to fully appreciate and resolve due to a lack of technical expertise.

In this text we seek to formulate a tool that can aid such managers in their work of incorporating BCIs and other innovative new forms of ICT into an eHealth ecosystem in a way that systematically diagnoses and addresses the unique ethical questions that are relevant for each stage of such a process. We begin by defining eHealth ecosystems and presenting an overview of BCIs and the roles that they can fill in such ecosystems. The ethical aspects of BCIs are then investigated by means of a novel two-dimensional framework that surfaces and analyzes ethical issues relating to ICT in eHealth ecosystems through the lens of a systems development life cycle (SDLC) approach to technology management.

## DEFINING EHEALTH ECOSYSTEMS

It is difficult to identify a single universally accepted definition of 'eHealth.' Pagliari (2005) cites 36 definitions of eHealth found within the scientific literature and other sources. While those definitions differ greatly, many of them include a number of common themes, including an emphasis on the use of Internet-based and other networked ICT (as opposed to standalone technologies such as non-networked scanning equipment); telemedicine; and the creation, transmission, and analysis of digital data to enhance both the provision of medical treatment and the performance of administrative tasks. Having considered many such definitions of eHealth, Whitehouse and Duquenoy (2008) cite as especially useful the definition contained in the European Commission's *Action Plan for a European e-Health Area* (COM (2004) 356 final, p. 4), which states that eHealth "describes the application of information and communications technologies across the whole range of functions that affect the health sector."

An eHealth 'ecosystem' can be understood as a networked environment of actors, devices, and information systems involved in the provisioning of eHealth services that display both autonomy and mutual dependencies and which interact in such complex ways that they can 'evolve' in a manner analogous to that of a natural biological ecosystem (Benedict and Schlieter, 2015; Guedria et al., 2014). Such ecosystems can incorporate actors such as patients, primary care professionals, public hospitals,

private outpatient clinics, diagnostic and imaging facilities, nursing homes, pharmacies, universities, research laboratories, insurers, and national and local government agencies (Nollo et al., 2014). These actors interact through the use of ICT that includes medical devices housed in dedicated facilities (such as fMRI machines), mobile health devices (such as wearable heart monitors), home fitness equipment, cloud-based health care information systems, and general-purpose communication tools such as social media, email, and telephones (Guedria et al., 2014; Nollo et al., 2014). Such tools are used to deliver business outcomes including real-time telemonitoring and teleassistance, patient education, management of patient care, and financial processing (Guedria et al., 2014).

In order to be viable, an eHealth ecosystem must possess legal, organizational, semantic, and technical interoperability among its constituent devices, processes, and systems (Guedria et al., 2014; COM (2010) 744 final, Dec. 2010). When implemented on the smallest scale, it is possible for such an ecosystem to constitute a 'personal' eHealth ecosystem (Harno, 2013) that connects all of the implantable, wearable, mobile, or ambient devices involved with the provision of health care to a single individual. When implemented on a larger scale, such ecosystems may operate at a municipal, national, or international level and include millions of patients as members. Bourquard (2011, p. 84) notes, for example, that the development of pan-European eHealth ecosystems will require successful agreement on international standards such as the EU eHealth Interoperability Framework envisioned by the European Commission (Van Langenhove et al., 2013), development of a consensus implementation roadmap by service providers, creation of testing platforms, and creation of certification regimes to enforce convergence and consistency.

## **OVERVIEW OF BRAIN-COMPUTER INTERFACES AND THEIR (POTENTIAL) ROLES IN EHEALTH ECOSYSTEMS**

Brain-computer interfaces (BCIs) comprise a diverse and expanding range of sophisticated neurotechnologies whose use is expected to increasingly impact spheres of human activity including health care; interpersonal relationships and sociality; creativity and the arts; science, education, and knowledge management; commerce, work and organizational life; and defense, law enforcement, and personal security (Gladden, 2016). BCIs are devices that "involve real-time direct connections between the brain and a computer" (Glannon, 2014, p. 1) and which "provide a direct communication pathway between the human brain and an external device" (Lance et al., 2012, p. 1586). A BCI can be classified as 'invasive,' 'non-invasive,' or 'partially invasive' depending on whether the device physically extends into the tissue of its user's brain (Gasson, 2012, p.14; Panoulas et al., 2010; Gladden, 2015). Non-invasive BCIs (e.g., utilizing EEG or fMRI technology) may involve sensors temporarily affixed to a user's scalp, while invasive BCIs (e.g., for deep brain stimulation) may incorporate hundreds of electrodes or other

stimulators or sensors surgically implanted in a user's brain (Glannon, 2014, p. 1; Bostrom and Sandberg, 2009). BCIs are employed for functions including neurofeedback, neurostimulation, and neural control of remote devices (Haselager et al., 2009, p. 1352).

There is a wide variety of roles that BCIs are already playing or can potentially play within eHealth ecosystems. Perhaps the most obvious role for BCIs is in the direct provision of care to treat a medical condition. For example, some kinds of cochlear implants (Bostrom and Sandberg, 2009, p. 321) and artificial retinas (see Thanos et al., 2007) can interface directly with the brain to provide sense data from the external environment to users who would otherwise be unable to hear or see. Deep brain stimulation (DBS) is used to treat motor disorders such as Parkinson's disease, dystonia, and essential tremor (Clausen, 2011, p. 495). BCIs can also potentially be employed to predict or stop epileptic seizures (Drongelen et al., 2005; Fountas and Smith, 2007). New kinds of BCIs are being envisioned in the form of cognitive neuroprostheses that can support, regulate, modify, or replace neural processes relating to memory, imagination, emotion, identity, and consciousness (Gladden, 2016).

BCIs can also allow patients suffering from particular medical conditions to control computerized systems that are external to their bodies. For example, BCIs can be utilized to control motorized wheelchairs and robotic artificial limbs, which can be used by paralyzed patients for self-feeding and other important tasks (Clausen, 2011, pp. 498-99; Glannon, 2014, p. 1). BCIs can also be directly employed by patients as a means of communication. For example, a BCI can be used by a paralyzed individual to control a cursor on a computer screen (Glannon, 2014, p. 1) in order to compose messages. BCIs can also be employed to communicate with patients suffering from paralysis or locked-in syndrome (LIS) who would otherwise be unable to communicate (Haselager et al., 2009, p. 1353; Glannon, 2014, p. 1).

Increasingly, though, BCIs will be used not for the therapeutic purpose of treating a medical condition but in order to augment and enhance the cognitive and physical capacities of healthy human beings (Gasson, 2012, p. 25). This is expected to create radical new possibilities for incorporating BCIs into the activities of eHealth ecosystems. For example, it is anticipated that in the future, medical personnel could use BCIs as a replacement for smartphones to engage in real-time, hands-free, direct brain-to-brain communication with one another or to check online medical reference texts with a mere thought (Lance et al., 2015; Gladden, 2015). Medical personnel could also use BCIs as a means of authenticating their identity and accessing restricted services and data within eHealth ecosystems – including financial and administrative data, patients' medical histories, and real-time data from monitoring devices, as well as remotely controlling diagnostic equipment, drug delivery systems, implantable medical devices, and robotic surgical systems (Thorpe et al., 2005; Van Erp et al., 2012; Gladden, 2015).

## **THE LACK OF TOOLS AND APPROACHES FOR MANAGING THE ETHICAL DIMENSIONS OF INCORPORATING BCIS INTO EHEALTH ECOSYSTEMS**

The use of BCIs raises many complex ethical and legal questions relating to safety and risk, privacy, personal identity and agency, equity and social justice, and the nature and future direction of the human species. Many works have explored such ethical dimensions of BCIs, including those by Nijboer et al. (2006), McGee and Maguire (2007), Wolpe (2007), Bostrom and Sandberg (2009), Haselager et al. (2009), Tamburrini (2009), Kotchetkov et al. (2010), Clausen (2011), Vlek et al. (2012), Jebari (2013), Nijboer et al. (2013), Glannon (2014), and McCullagh et al. (2014). However, such works typically focus either on the ethical issues that are relevant at a societal level (e.g., evaluating whether certain kinds of BCIs should be banned by the government) or at the personal level (e.g., considering the impact of a BCI on the privacy and autonomy of an individual patient). Significant attention has not yet been given to ethical issues that arise at the organizational level when managing the implementation of BCIs – and in particular, scholars have not yet systematically identified or considered unique ethical issues that might arise when managing the incorporation of BCIs into eHealth ecosystems.

This lack of research and established best practices relating to the ethical management of eHealth technology implementation concerns not only BCIs but innovative forms of ICT more generally. For example, numerous works have explored the ethical aspects of eHealth, including those by Rippen and Risk (2000), Anderson (2007), Whitehouse and Duquenoy (2008), Liang, Mackey, and Lovett (2011), Kluge (2011), Whitehouse, George, and Duquenoy (2012), Duquenoy, Mekawie, and Springett (2013), Miesperä, Ahonen, and Reponen (2013), Wadhwa and Wright (2013), Habib (2014), Jumelle and Ispas (2015), and Rissanen (2015). However, as broad investigations of ethical issues in eHealth, such texts do not provide operators of eHealth ecosystems with comprehensive frameworks for surfacing and managing the spectrum of unique ethical considerations that arise at each stage of the process of incorporating new ICT into such ecosystems.

## **FORMULATING AN SDLC-BASED ETHICAL FRAMEWORK FOR MANAGING THE INCORPORATION OF INNOVATIVE ICT INTO EHEALTH**

In order to address this lacuna in the fields of BCI implementation and eHealth management, we propose a conceptual framework for managing the incorporation of innovative ICT into eHealth that is based on a systems development life cycle (SDLC) approach and which can be applied directly to the case of BCIs. Our two-dimensional framework encompasses: 1) key ethical dimensions relevant to the management of eHealth ecosystems; and 2) stages in the process of incorporating a new kind of ICT into an eHealth ecosystem. This framework is described in more detail below.

*First Axis: Ethical Dimensions of Incorporating Innovative ICT into an eHealth Ecosystem*

A review was conducted of the two dozen texts cited above that discuss the ethical dimensions of BCIs or of the incorporation of innovative forms of ICT into eHealth ecosystems. Within the constraints of this text, it is not possible to describe and compare in detail the contents of those texts; however, by analyzing and synthesizing such works, it is possible to delineate five key ethical dimensions that must be successfully addressed when incorporating innovative ICT into eHealth ecosystems; these are: 1) *beneficence*, 2) *consent*, 3) *privacy*, 4) *equity*, and 5) *liability*.

*Second Axis: SDLC Stages of Incorporating Innovative ICT into an eHealth Ecosystem*

Incorporating insights from the systems development life cycle (SDLC) approach to technology management, the second axis of our framework describes five key stages of implementing new ICT in an eHealth ecosystem. Wager et al. (2013) review a range of SDLC frameworks that have been employed to manage the development of health care information systems; they observe that most approaches can be summarized as comprising the four stages of planning and analysis, design, implementation, and support and evaluation. Similarly, Benedict and Schlieter (2015, pp. 236-37) identify four stages in the creation of the infrastructure for an open eHealth ecosystem: analysis, design, implementation and testing, and utilization. Meanwhile, an SDLC developed by the US National Institute of Standards and Technology with an emphasis on information security similarly describes the four phases of initiation, development/acquisition, implementation, and operations/maintenance, along with an additional phase of disposal (NIST SP 800-100, 2006, pp. 19-25): information systems do not last forever, and it is important that once they reach the end of their service life their components are disposed of in a manner involving appropriate information preservation and media sanitization. This is especially critical in the case of health care information systems that contain personal medical data subject to stringent legal and ethical requirements (Gladden, 2015, pp. 180-81).

By synthesizing such SDLC frameworks, we can describe the five relevant stages of incorporating ICT into an eHealth ecosystem as comprising: 1) *analysis and planning*; 2) *design, development, and acquisition*; 3) *integration and activation*; 4) *operation and maintenance*; and 5) *disposal*.

		ETHICAL DIMENSIONS OF ICT IN EHEALTH ECOSYSTEMS				
		Beneficence	Consent	Privacy	Equity	Liability
SDLC STAGES OF INCORPORATING ICT INTO EHEALTH ECOSYSTEMS	Analysis and planning	Determining whether a BCI is inherently harmful or too risky to be utilized	Developing policies, practices, and roles to ensure consent in all SDLC phases	Developing policies, practices, and roles to ensure privacy in all SDLC phases	Identifying relevant stakeholders and involving them early in the process	Determining liability for the program as a whole
	Design, Development, and Acquisition	Designing BCI-ecosystem integration (e.g., failure modes) to minimize harm	Ensuring consent of test subjects for experimental BCI integration into ecosystem	Building information security safeguards into hardware and software	Ensuring that BCI integration is designed to work well for different types of users	Clarifying liability of BCI designers, manufacturers, providers, and operators
	Integration and Activation	Ensuring that BCI integration does not disrupt existing institutional ICT systems	BCIs may not be installed, integrated, or activated without users' consent	Privacy of BCI users must be safeguarded during BCI integration and activation	Ensuring that provisioning of BCI integration to institutions and individuals is equitable	Clarifying liability for problems during BCI integration or activation
	Operation and Maintenance	BCIs must respond to real-time conditions to optimize service and risk levels	Mechanisms for verifying users' ongoing consent must function effectively	Ensuring privacy of user data generated, sent, received, or stored by BCIs	Ensuring that BCIs do not grant illegal or unjust benefits to users at others' expense	Responsibility to immediately identify and correct harm being caused by BCIs in use
	Disposal	BCIs should not be disconnected if this would result in harm to users	Ensuring users' consent before terminating BCI services, insofar as possible	Permanently maintaining privacy of user data even after termination of BCI services	Fairness and impartiality in deciding which BCI services to discontinue	Liability for harm caused by disconnection of BCIs from eHealth ecosystem

Figure 1. *Our proposed framework for managing the ethical dimensions of incorporating innovative ICT into eHealth ecosystems, as applied to the case of brain-computer interface technologies. Shown are examples of issues relating to all five ethical dimensions at each of the five stages of the system development life cycle (SDLC) when incorporating a new BCI technology into an eHealth ecosystem.*

#### *Combining the Two Axes to Yield a Matrix of Ethical Issues for Each Stage of the SDLC*

When combined, the axes described above yield a matrix of the sort reflected in Figure 1. It defines an array onto which can be mapped ethical issues relating to a particular form of ICT. We would suggest that such a framework can potentially be used as an effective management tool for surfacing, classifying, and addressing unique ethical issues that should be considered during each stage of the process of incorporating innovative ICT into an eHealth ecosystem.

## APPLYING THE ETHICAL FRAMEWORK TO MANAGING THE EHEALTH IMPLEMENTATION OF BCIS

Having formulated this framework, we can apply it to the particular case of incorporating BCI technology into an eHealth ecosystem. A number of ethical questions that have been raised (sometimes in an *ad hoc* fashion) in the literature on BCIs and eHealth ecosystems; in Figure 1, we have populated our matrix with such issues by assigning them to the relevant location within the two-dimensional space. In the following sections, the ethical issues related to each SDLC stage will be discussed in more detail, illustrating the manner in which this framework might aid eHealth ecosystems' operators in managing in a systematic and comprehensive way the ethical dimensions of integrating BCI technologies into such ecosystems.

### *SDLC Stage 1: The Analysis and Planning Stage*

In this stage, key ethical questions may be addressed by international, national, and local policymakers in consultation with the program managers who would ultimately oversee the incorporation of BCI technologies into an eHealth ecosystem. To begin with, the ethical dimension of *beneficence* is important in this stage: decision-makers must assess whether incorporating BCI technology into an eHealth ecosystem is likely to do significant good (and acceptably minimal harm) for its users. For example, use of an invasive BCI that requires implanted electrodes is inherently risky; it can cause brain trauma and hemorrhage in otherwise healthy patients (Clausen, 2011, p. 499). If the benefits generated by the BCI do not outweigh this risk (perhaps, e.g., in the case of BCIs used to grant enhanced communication capacities to healthy human beings (Clausen, 2011, p. 499)), it may be decided not to endorse, encourage, or allow the use of such BCIs by facilitating their incorporation into an eHealth ecosystem.

The element of users' *consent* is also relevant at a systemic level even in this first stage. Decision-makers must consider the extent to which the incorporation of BCIs into an ecosystem is being driven by users' legitimate needs and desires and to what extent users may have been manipulated by device manufacturers (e.g., through advertising campaigns) to feel as though they 'need' a BCI in order to be happy or successful (Bostrom and Sandberg, 2009, p. 324). If the best and most effective health care systems employ widespread BCIs for the provisioning of care, individuals may feel pressured to utilize such technologies in order to access adequate care. If it is apparent that users of a BCI technology will not be truly free to grant or withhold consent, it may be inadvisable to proceed with its incorporation into an eHealth ecosystem.

During this stage, the ethical element of *privacy* is addressed by developing effective policies, practices, and roles to ensure that users' data will be protected throughout the later stages of the SDLC. The

element of *equity* is addressed by identifying relevant stakeholders (including ethicists, legal scholars, biomedical experts, hospitals, potential device users, and device manufacturers) and gathering their input before any major programmatic commitments are made. Many BCI technologies are quite expensive: decision-makers must consider how their incorporation into eHealth ecosystems may unfairly advantage those who can afford to purchase them and may increase disparities between financially privileged and disadvantaged individuals within society (Bostrom and Sandberg, 2009, p. 329) or between wealthier and poorer countries. Decision-makers must also consider the impact that incorporation of a BCI will have on those within the eHealth ecosystem who choose not to utilize such technologies: if BCIs become an important element of an ecosystem, then unwillingness to use a BCI might effectively deprive a patient of full access to the health care system (Bostrom and Sandberg, 2009, p. 329). Decision-makers must also ask whether BCIs are being used as an easy means of controlling or pacifying patients that avoids addressing broader medical or societal issues (Bostrom and Sandberg, 2009, p. 324).

Issues of *liability* must also be discussed at a systemic level, to clarify who will bear responsibility for all decisions and actions taken throughout the incorporation process. Moreover, in addition to addressing ethical concerns that are unique to the analysis and planning stage, during this stage decision-makers must also conduct a preliminary analysis of all of the ethical issues that are expected to arise during later stages – to be sure that none of those ethical issues is so severe that it warrants abandoning the BCI incorporation at this first stage.

#### *SDLC Stage 2: The Design, Development, and Acquisition Stage*

During the design, development, and acquisition stage of the SDLC, *beneficence* is addressed, for example, by ensuring that BCIs and the mechanisms incorporating them into an eHealth ecosystem possess appropriate failure modes that will minimize harm to users in the case of software errors, mechanical failures, or other problems (Gladden, 2015, p. 259), as well as testing BCIs to ensure that they do not generate unexpectedly harmful side-effects (Bostrom and Sandberg, 2009, p. 323). *Consent* includes obtaining the informed consent of all individuals who serve as test subjects during design and testing of the BCI incorporation. *Privacy* involves not only safeguarding the privacy of such test subjects but also ensuring that BCIs and their system connections are built to include adequate management, operational, and technical controls for information security (Gladden, 2015, pp. 205-304).

Questions of *equity* include ensuring that BCIs and their connections to an eHealth ecosystem are designed to work equally well for diverse kinds of users and that they do not unfairly advantage specific device manufacturers or users who possess a particular socioeconomic status, place of



residence, or set of mental and physical characteristics. Issues of *liability* include specifying liability for any accidents that might occur during testing of BCIs and their incorporation into eHealth ecosystems and developing clear liability frameworks for later stages in the implementation process.

#### *SDLC Stage 3: The Integration and Activation Stage*

The integration and activation stage involves connecting BCIs to an eHealth ecosystem and its services for the first time or activating features within the eHealth ecosystem that allow BCI users to individually connect to the system. In this stage, the dimension of *beneficence* involves ensuring that the initial integration of BCIs into the ecosystem does not cause harm to the BCIs' users or other participants in the ecosystem (e.g., through a lack of bandwidth or computer resources needed to simultaneously support the BCIs and all other ecosystem components). *Consent* requires that the BCIs of individual users not be accessed by or functionally integrated into an ecosystem (e.g., through remote management or participation in cloud-based services) without users' knowledge and agreement. The ability of minors and those with cognitive disorders to give informed consent for integration of their BCIs into an ecosystem may be nonexistent (Bostrom and Sandberg, 2009, p. 324). Clausen (2011, pp. 498-99) notes the special ethical issues raised by BCIs that are used to establish communication with patients who are otherwise unable to communicate, such as those suffering from locked-in syndrome: by definition, such patients are unable to express their consent before a BCI is installed and activated. While activating such a BCI – especially an invasive one – without a patient's consent could be considered unethical, refusing to apply such a beneficial life-enhancing technology because the patient is unable to express consent in advance might also be considered ethically inappropriate.

During the integration and activation stage, *privacy* requires not only that an ecosystem appropriately safeguard the particular data generated by a user's BCI but also that the mere fact that someone possesses a BCI and has become a member of the ecosystem be kept confidential. *Equity* requires that the order and robustness with which classes of BCIs and individual users' BCIs are incorporated into an eHealth ecosystem be determined in a manner that is just and not unlawfully discriminatory. Questions of *liability* are addressed by ensuring that clear legal frameworks and particular agreements are in place before an institutional or individual operator of BCIs or provider of BCI-related services is allowed to access an eHealth ecosystem.

#### *SDLC Stage 4: The Operation and Maintenance Stage*

During this stage, BCIs participate fully in an eHealth ecosystem while being actively employed by their operators and users for a range of therapeutic and augmentative tasks. Here, *beneficence* requires

that both BCIs and other components of the eHealth ecosystem (including any centralized management systems) respond effectively to changing real-time conditions to optimize service and risk levels, maximize the benefit, and minimize the potential of harm for BCIs' users. For example, eHealth ecosystem operators may need to monitor BCI users to detect whether use of the devices is generating addictions or harmful personality changes (Clausen, 2011, p. 499). Even non-invasive BCIs designed for seemingly harmless purposes may be employed by their users in ways that raise ethical questions for an ecosystem's managers. For example, BCIs ostensibly designed for educational purposes may yield more knowledgeable users but can also potentially generate negative effects such as increased selfishness, extremism, confusion, or manipulability (Bostrom and Sandberg, 2009, pp. 322-23). Moreover, if BCIs are used to link human minds to create a 'collective intelligence' of direct brain-to-brain communication, an ecosystem's operator may be responsible for preventing such interaction from erupting into the sort of 'flame wars' and trolling that are commonly found on the Internet and which can cause "stress and unpleasantness for everyone involved" (Bostrom and Sandberg, 2009, p. 322) – especially given some BCIs' powerful ability to force incoming communications into a user's immediate conscious awareness.

Bostrom and Sandberg note that economic competition and the need to secure and maintain a job might eventually force individuals to utilize BCIs who would otherwise never voluntarily choose to use them (Bostrom and Sandberg, 2009, p. 328; Gladden, 2016). Similarly, if the best and most effective health care ecosystems employ widespread BCIs for the provisioning of care, individuals may feel pressured to utilize such technologies in order to access adequate care. This raises questions of *consent* that must be monitored and addressed by an eHealth ecosystem's operators.

Moreover, BCIs in use generate large quantities of sensitive information (e.g., about a user's mental states, physical activities, social interactions, location, and environment) whose *privacy* must be safeguarded within an eHealth ecosystem. For example, even BCIs that do not typically create a permanent recording of a patient's electroencephalographic signals may do so during a device's training phase (e.g., when a patient is learning to control a motor prosthesis); Clausen (2011, p. 498) raises the ethical question of whether employers and insurers should be allowed to access such information. BCIs can also potentially be utilized by criminal hackers and other adversaries as a new and more effective tool for accessing or manipulating the data of an eHealth ecosystem's members – including those who do not possess BCIs (Gladden, 2015).

Ensuring *equity* in this stage involves guaranteeing that the providers of BCIs or BCI-related services do not take advantage of their possession of sensitive user data or users' physical and psychological dependency on such devices (Bostrom and Sandberg, 2009, p. 323) to unjustly exploit or extort their

users. Issues of *liability* are also important; for example, a BCI that allows a paralyzed patient to steer a motorized wheelchair must continuously detect and interpret the patient's brain signals, and the system will inevitably make errors that occasionally cause the wheelchair to move in an unintended manner, thereby potentially causing accidents that harm persons or property. Clausen (2011, p. 499) notes that a majority of surveyed BCI experts would attribute responsibility for such accidents to a system's user (Nijboer et al., 2013), but insurance companies or other participants in an ecosystem might instead be assigned responsibility.

#### *SDLC Stage 5: The Disposal Stage*

The ethical factor of *beneficence* requires that before managers and decision-makers permanently remove or limit the existing connection of BCIs to an eHealth ecosystem, they first ascertain whether such actions may cause immediate or future harm to the users of those devices (Gladden, 2015, p. 175). Given the fact that both the use of certain kinds of BCIs as well as the discontinuation of their use can have profound psychological and physical effects on their users, it may be necessary to obtain the *consent* of individual BCI users before changes are made to an eHealth ecosystem that result in a loss of BCIs' ability to interface with the system and utilize its services. In some cases, it may be unethical to disable or disconnect a BCI against its user's will, even when the device no longer serves the medical purpose for which it was originally prescribed (Clausen, 2011, p. 499).

In this stage, the ethical dimension of *privacy* involves ensuring that sensitive user data generated by BCIs' interaction with the eHealth ecosystem and stored within the system is permanently safeguarded, even after the BCIs' ability to participate in the ecosystem has been terminated. The ethical dimension of *equity* involves determining in a fair and impartial way which BCI services and interfaces are to be discontinued – e.g., as a result of budgetary constraints in managing an ecosystem. The ethical dimension of *liability* is reflected, for example, in questions of financial and legal responsibility for any harm occurring to individual users or their property due to actions by an ecosystem's operators that result in the disconnection or disabling of BCIs participating in the system (Bostrom and Sandberg, 2009, p. 323).

## CONCLUSION

When seeking to incorporate innovative forms of ICT like brain-computer interface technologies into eHealth ecosystems, the operators of such ecosystems must grapple with a complex array of ethical questions that are not directly and comprehensively addressed by existing approaches within business ethics, health care ethics, and the ethics of BCIs. By utilizing a framework such as the one formulated in this text, managers can systematically identify ethical issues relating to BCIs and understand them as

questions of *beneficence, consent, privacy, equity, and liability* which can be addressed as they become relevant during the SDLC stages of *analysis and planning; design, development, and acquisition; integration and activation; operation and maintenance; and disposal*. It is hoped that this framework may facilitate the incorporation of beneficial BCI technologies into eHealth ecosystems in ways that fulfill ethical demands arising from regulatory requirements and the expectations for best practices on the part of stakeholders including patients, medical personnel, government policymakers, taxpayers, device manufacturers, and ecosystem operators. The application of this management tool in the case of BCIs may also lay the groundwork for its use when integrating other forms of innovative ICT into eHealth ecosystems. Giving the growing social and economic significance of advanced health care within aging societies, the expanding role of BCIs in facilitating the provision of high-quality health care, and emerging possibilities for the use of BCIs in human augmentation, the importance of conceptual frameworks that can assist eHealth ecosystem operators in managing the ethical dimensions of such sophisticated technologies is only likely to grow in the coming years.

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## INFORMATION SECURITY CONCERNS AS A CATALYST FOR THE DEVELOPMENT OF IMPLANTABLE COGNITIVE NEUROPROSTHESES

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### ABSTRACT

Standards like the *ISO 27000* series, *IEC/TR 80001*, *NIST SP 1800*, and FDA guidance on medical device cybersecurity define the responsibilities that manufacturers and operators bear for ensuring the information security of implantable medical devices. In the case of implantable cognitive neuroprostheses (ICNs) that are integrated with the neural circuitry of their human hosts, there is a widespread presumption that InfoSec concerns serve only as limiting factors that can complicate, impede, or preclude the development and deployment of such devices. However, we argue that when appropriately conceptualized, InfoSec concerns may also serve as drivers that can spur the creation and adoption of such technologies. A framework is formulated that describes seven types of actors whose participation is required in order for ICNs to be adopted; namely, their 1) producers, 2) regulators, 3) funders, 4) installers, 5) human hosts, 6) operators, and 7) maintainers. By mapping onto this framework InfoSec issues raised in industry standards and other literature, it is shown that for each actor in the process, concerns about information security can either disincentivize or incentivize the actor to advance the development and deployment of ICNs for purposes of therapy or human enhancement. For example, it is shown that ICNs can strengthen the integrity, availability, and utility of information stored in the memories of persons suffering from certain neurological conditions and may enhance information security for society as a whole by providing new tools for military, law enforcement, medical, or corporate personnel who provide critical InfoSec services.

**Keywords:** *cognitive neuroprosthetics, implantable medical devices, information security, human enhancement, digital health ecosystems, health information systems, ISO 27000 series, ISO 27799, NIST SP 1800*

### INTRODUCTION

Developments in the field of neuroprosthetics are occurring at a rapid pace. Among the most revolutionary technologies are implantable cognitive neuroprostheses (ICNs) that are housed

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permanently within a human host's body and which interact with the brain to regulate or enhance cognitive processes relating to memory, emotion, imagination, belief, and conscious awareness.

If such devices fail to function as intended, they can have a severe negative impact on the psychological and physical well-being of their human hosts. While information security (InfoSec) experts have begun formulating approaches to safeguarding these devices against computer viruses, cyberattacks, communication glitches, power outages, user authentication errors, and other problems that could disrupt their functioning, it is commonly presumed that InfoSec concerns represent a significant obstacle to the broader adoption of such technologies. Almost no consideration has been given to the possibility that InfoSec concerns might also create compelling reasons *in favor of* developing and deploying ICNs within society.

In this text, a conceptual framework is formulated which demonstrates that at each step in the process of creating and adopting ICNs, it is possible for InfoSec-related concerns to either impede the process or drive it forward. Before considering that framework, we can review the state of ICNs and industry standards for information security, especially as it applies to implantable medical devices.

## BACKGROUND AND FOUNDATIONS

### *Overview of Implantable Cognitive Neuroprosthetics*

A neuroprosthesis can be understood as “a technological device that is integrated into the neural circuitry of a human being” (Gladden 2015, p. 21; Lebedev, 2014). Such neuroprostheses can be sensory, motor, or cognitive in nature (Lebedev, 2014). In this text we focus on cognitive neuroprostheses – experimental devices that enhance, regulate, replace, or otherwise participate in cognitive processes and phenomena (Gladden, 2015, pp. 26-27) such as memory (Han et al., 2009; Ramirez, 2013), emotion (Soussou and Berger, 2008), personal identity and agency (Van den Berg, 2012), and consciousness (Kourany, 2013; Claussen and Hofmann, 2012).

Such devices are still in their early experimental stages; however, it is anticipated that they will eventually be used to treat a range of conditions such as anxiety disorders, emotional disorders, addictions, Alzheimer's disease, and other memory disorders (Ansari et al., 2007; Merkel et al., 2007; Stieglitz, 2007; Soussou and Berger, 2008; Van den Berg, 2012; Gladden, 2015, pp. 22-26) as well as to enhance cognitive capacities like memory and alertness beyond their natural limits (Spohrer, 2002; McGee, 2008; Brunner and Schalk, 2009; Koops and Leenes, 2012; Kourany, 2013; Rao et al., 2014; Warwick, 2014; Gladden, 2015, pp. 26-28).



Some neuroprosthetic technologies comprise large and sessile pieces of non-invasive equipment (e.g., fMRI machines) that are permanently housed in dedicated medical facilities and can only be used at those locations. Other neuroprosthetic technologies involve prostheses that are physically integrated into the biological organism of a human host but have an interface with the external environment; still others are implants which, after their surgical insertion, are entirely concealed within the body of a human host (often within the brain) and may remain there throughout the rest of their host's lifetime (Gladden, 2015, pp. 28-29). In this text we focus on implantable cognitive neuroprosthetic (ICNs), which display unique InfoSec characteristics because they: 1) are often deeply integrated with the biological neural network of their human host's brain, creating the possibility of severe psychological or physical harm (including death) if they are compromised or fail to function as intended; 2) must rely on wireless communication to interact with external health information systems and receive instructions and software updates; and 3) are highly mobile devices that enter a diverse range of unpredictable and unsecure environments as their host goes about his or her daily life (ISO 27799, 2008, p. 47; NIST SP 1800-1a, 2016, p. 1; *Content of Premarket Submissions*, 2014, p. 4; Gladden, 2015, pp. 62-65).

#### *Fundamental Principles of Information Security (InfoSec)*

Information security is an interdisciplinary field whose goal has traditionally been to ensure the *confidentiality, integrity, and availability* of information (Rao and Nayak, 2014, pp. 49-53; NIST SP 1800-1b, 2016, p. 9; "Security Risk Assessment Framework," 2014). This notion of a 'CIA Triad' has been expanded through Parker's vision of safeguarding the three additional attributes of the *possession, authenticity, and utility* of information (Parker, 2002; Parker, 2010). However, a neuroprosthetic device is not a conventional computerized information system; as an instrument integrated into the neural circuitry of its human host, it becomes part of the personal 'information system' that comprises the host's mind and body and which possesses a unique legal and moral status. As a result, ensuring information security for a neuroprosthesis also entails safeguarding the three additional attributes of *distinguishability*, or the possibility of differentiating information according to its nature or origin (e.g., the ability to recognize which of the thoughts experienced in one's mind are 'one's own' and which, if any, are being generated or altered by a neural implant); *rejectability*, or the ability of a host-device system to purposefully exclude particular information from the host's conscious awareness (i.e., the freedom *not* to recall certain memories or entertain particular thoughts at a given moment); and *autonomy*, or the ability of a host-device system to exercise its own agency in the processing of information (i.e., the ability to arrive at a decision through the use of one's own cognitive processes and of one's own volition, without the contents of that decision being manipulated or determined by some external agent) (Gladden, 2015, pp. 138-42). In the case of a neuroprosthetic device integrated with the

neural circuitry of its human host, information security thus involves not only securing all electronic data stored in or processed by the device but also ensuring the integrity of the thoughts, memories, volitions, emotions, and other informational processes and content of the natural biological portions of the host's mind in the face of a full range of vulnerabilities and threats including electronically, biologically, and psychologically based attacks (Gladden, 2015, pp. 40-57; Denning et al., 2009).

A key mechanism for promoting information security is the implementation of administrative, physical, and logical security controls (Rao and Nayak, 2014, pp. 66-69). This does not simply involve the installation of antivirus software but rather the creation and effective implementation of a comprehensive program of risk management (*NIST SP 800-33*, 2001, p. 19).

#### *InfoSec Standards of Relevance to Implantable Cognitive Neuroprosthetics*

Widely utilized standards that help organizations design and implement best practices for information security include the *ISO 27000* series that defines requirements for InfoSec management systems or ISMSes (*ISO/IEC 27001*, 2013) and a code of practice for InfoSec controls (*ISO/IEC 27002*, 2013). Similarly, NIST standards address risk management and InfoSec life cycles (*NIST SP 800-37*, 2010), InfoSec practices for managers (*NIST SP 800-100*, 2006), and security and privacy controls (*NIST SP 800-53*, 2013).

Beyond these generic InfoSec standards, national and international bodies are increasingly developing specialized standards relating to health care data and medical devices. For example, ISO has published standards and other resources relating to InfoSec for remotely maintained medical devices and information systems (*ISO/TR 11633*, 2009), IT networks that incorporate medical devices (the *IEC 80001* series, 2010-15), and InfoSec management in the field of health care (*ISO 27799*, 2008). In 2015, the NIST issued a draft publication on information security for health records stored or processed on mobile devices (*NIST SP 1800-1*). The US Food and Drug Administration has issued guidance relating to cybersecurity for medical devices utilizing off-the-shelf software (2005) and to the premarket (2014) and postmarket (2016) management of cybersecurity for medical devices. Industry organizations such as the Medical Device Privacy Consortium have proposed their own InfoSec standards (*Security Risk Assessment Framework for Medical Devices*, 2014).

These resources do not focus specifically on the InfoSec questions that arise with the use of ICNs. However, those questions have been explored from an academic perspective in works such as those by McGee (2008), Denning et al. (2009), Koops and Leenes (2012), Kosta and Bowman (2012), and Gladden (2015). By interpreting the published standards in light of such scholarship, it is possible to identify

specific InfoSec concerns of relevance to the stakeholders whose participation is required for the implementation of ICNs.

## **FORMULATING A CONCEPTUAL FRAMEWORK FOR INFOSEC CONCERNS AS AN IMPEDIMENT OR IMPETUS TO THE DEVELOPMENT OF ICNS**

In order to identify ways in which InfoSec concerns can either drive or impede the adoption of ICNs, we propose a conceptual framework that incorporates two dimensions: 1) the chain of actors who participate in the development and adoption of such technologies; and 2) their disincentivization or incentivization to participate in that process as a result of InfoSec considerations. Note that many other factors may influence whether actors decide to pursue the development of ICNs, including ethical, legal, public policy, financial, and operational considerations; the framework formulated here only attempts to identify those factors relating to information security. We can consider the framework's dimensions in more detail.

### *First Dimension: Actors in the Process of Neuroprosthetic Devices' Adoption*

Review of the InfoSec literature for medical devices makes it possible to identify seven types of stakeholders whose participation will be required in order for any implantable neuroprosthetic technology to be developed and deployed in human hosts and whose failure to implement effective InfoSec measures could potentially result in injury or death for an ICN's host (*Content of Premarket Submissions*, 2014, p. 3; Gladden, 2015, pp. 109-110; *Postmarket Management of Cybersecurity*, 2016, p. 10). These actors include: 1) the designers and manufacturers of neuroprosthetic hardware and software (i.e., its 'producers'); 2) the government agencies and licensing bodies that must authorize the use of cognitive neuroprostheses in order for it to be legal (the technology's 'regulators'); 3) the government health services and private insurers that bear the cost of such devices' surgical implantation and ongoing maintenance ('funders'); 4) hospitals, clinics, and physicians who assess individual patients and perform the implantation of neuroprosthetic devices ('installers'); 5) the human subjects in whom neuroprosthetic devices are implanted but who may or may not actually operate the devices ('hosts'); 6) the typically institutional service providers that manage devices' connections to external systems and may remotely manage the devices themselves (their 'operators'); and 7) the providers of physical maintenance and upgrades, software updates, and additional functionality for neuroprosthetic devices already in use (their 'maintainers').

Collectively, the first two types of stakeholders (producers and regulators) can be understood as enabling the *creation* of implantable cognitive neuroprosthetic devices; the following three types

(funders, installers, and hosts) as enabling their *implantation*; and the final two types (operators and maintainers) as enabling their *ongoing use*.

*Second Dimension: Disincentivization or Incentivization of Participation in Adoption Process*

For a given actor, InfoSec concerns may provide the actor with either disincentives or incentives (or both) to participate in the development and adoption of ICNs.

## **DISCUSSION OF POTENTIAL INFOSEC-RELATED DISINCENTIVES AND INCENTIVES FOR EACH OF THE ACTOR TYPES TO PARTICIPATE IN ICN DEVELOPMENT**

By combining both dimensions, a two-dimensional framework is created; Figure 1 presents such a framework that has been populated with sample InfoSec concerns drawn from industry standards and other literature. We can now explore conceptually how for each of the potential actors in the process, InfoSec concerns can create either a disincentive or incentive for the actor to participate in the development and adoption of ICNs.

*Producers: Designers and Manufacturers of Hardware and Software*

Designers and manufacturers are largely responsible for the InfoSec characteristics of ICNs (*Content of Premarket Submissions*, 2014, p. 1). The reliance of implantable neuroprostheses on mobile, wireless, and networked technologies places them at significant danger for the embedding of malicious code and other attacks that can exploit vulnerabilities in such technologies (*ISO 27799*, 2008, p. 47; *NIST SP 1800-1a*, 2016, p. 1; *Content of Premarket Submissions*, 2014, p. 4). InfoSec breaches could have fatal consequences for the human hosts of ICNs (*ISO 27799*, 2008, p. 47); large-scale catastrophic InfoSec failures attributable to a manufacturer could result in massive fines and remediation costs, irreparable reputation brand damage, and even bankruptcy ("Security Risk Assessment Framework," 2014, p. 16). Producers may thus decide that the risks inherent in producing ICNs outweigh any possible benefits.

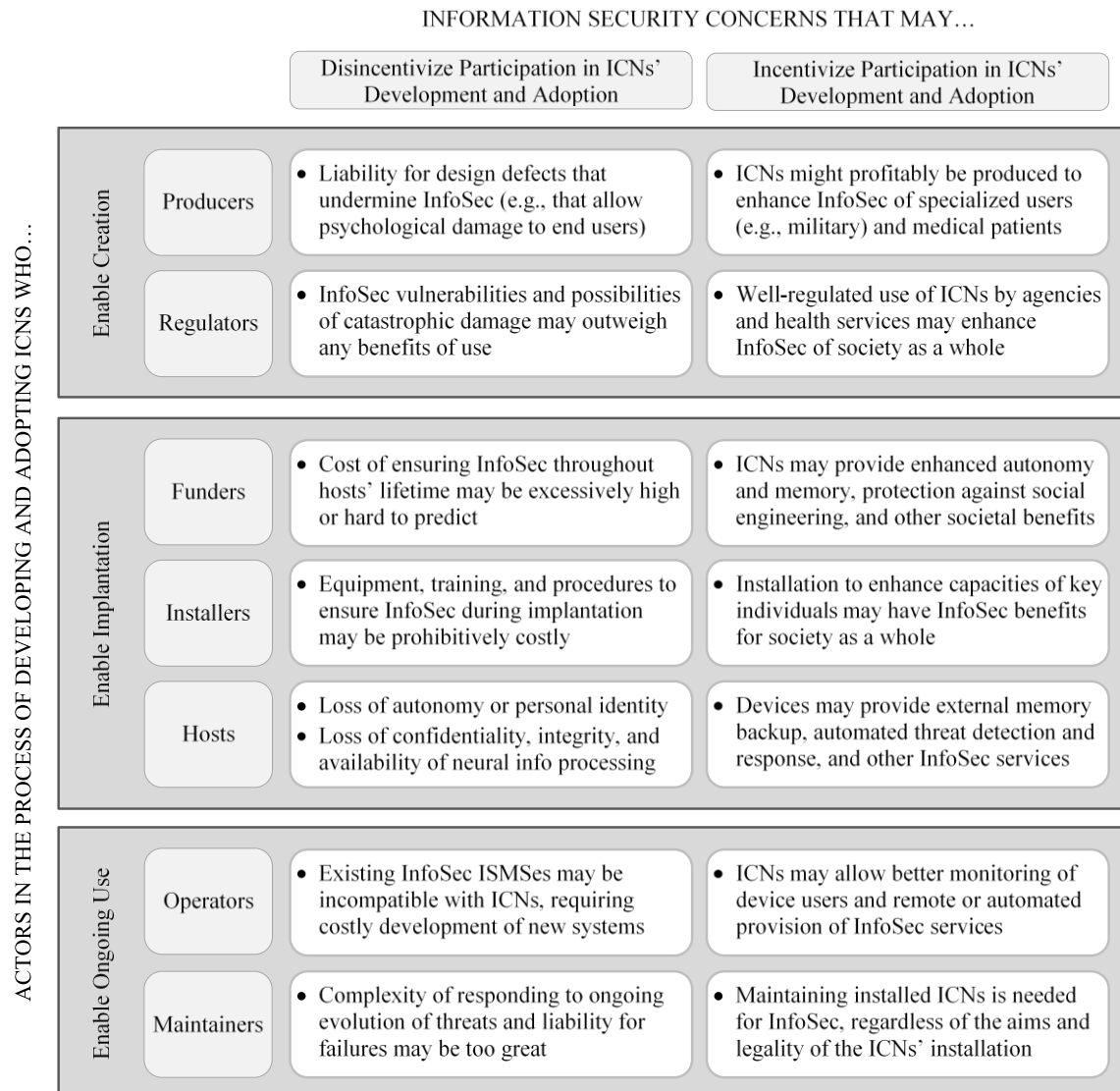


Figure 1. *Figure 1. Examples of InfoSec-related concerns synthesized from InfoSec standards and literature that could potentially disincentivize or incentivize participation of seven key types of actors whose involvement is necessary in order for implantable cognitive neuroprostheses (ICNs) to be developed and deployed.*

Moreover, the unique nature of ICNs may create contradictory InfoSec-related design requirements which are infeasible for manufacturers to satisfy simultaneously. For example, devices allowing access to neural functions must be maximally secure while at the same time granting full and immediate access to medical personnel in case of an emergency (*Content of Premarket Submissions*, 2014, p. 4). Similarly, for ICNs that store data in a biological or biomimetic neural network (see Merkel et al., 2007; Rutten et al., 2007; Stieglitz, 2007; Gladden, 2015, p. 31) or which transmit data through synaptic connections with biological neurons, it may be impossible to utilize the InfoSec best practice of

encrypting data (*NIST SP 1800-1e*, 2016, p. 5) without destroying the information's availability and utility.

Despite these concerns, though, it is possible that some individuals or organizations may wish to employ ICNs precisely in order to enhance their own information security or to protect that of others. In such a case, InfoSec considerations would constitute a factor driving demand for ICNs, which could make their development and production profitable and desirable for device designers and manufacturers. Such potential uses for individuals include strengthening the agency of users whose autonomy has been reduced by disorders such as Parkinson's disease (Van den Berg, 2012; Gladden, 2015, pp. 97, 150-51), restoring the memory mechanisms of individuals suffering from Alzheimer's disease or other neurological disorders (Ansari et al., 2007; Han et al., 2009; Ramirez et al., 2013; McGee, 2008; Warwick, 2014, p. 267), and providing the ability to record and 'play back' audiovisual experiences at will with perfect fidelity (Merkel et al., 2007; Robinett, 2002; McGee, 2008, p. 217; Gladden, 2015, pp. 156-57). Potential uses for organizations include augmenting the brains of military personnel to aid in their work of gathering and processing intelligence and engaging in cyberwarfare and combat operations (Schermer, 2009; Brunner & Schalk, 2009; Gladden, 2015, p. 34) and to enhance the availability of sensory information and memories by reducing their need for sleep (Kourany, 2013; Gladden, 2015, p. 151).

#### *Regulators: Agencies and Licensing Bodies Authorizing Device Adoption*

Regulatory agencies may be hesitant to approve the use of ICNs – especially for purposes of elective enhancement – if their InfoSec characteristics create a grave and widespread danger of psychological, physical, economic, or social harm for their users without counterbalancing benefits. However, regulators may be willing to authorize at least limited development of ICNs if they potentially create new and more effective tools for use by police personnel to analyze crime-related data and combat cybercrime, by military personnel to gather intelligence and conduct cyberwarfare, or by the personnel of private enterprises to detect and combat corporate espionage and cyberattacks (Gladden, 2015, p. 111). Regulation may also be desirable in order to create and enforce national or international InfoSec standards that, for example, allow emergency access to ICNs by medical personnel (Cho & Lee, 2012; Freudenthal et al., 2007; Gladden, 2015, p. 273).

#### *Funders: Government Health Services and Insurers Subsidizing Device Use*

The ongoing and unpredictable costs of protecting ICNs' human hosts from cyberattacks throughout the rest of their lives and of caring for those rendered psychologically, physically, or economically damaged as a result of such attacks may contribute to decisions by public health services and insurers

that subsidizing the implantation and use of ICNs – especially those employed for elective enhancement – is not a sound investment.

On the other hand, institutions such as national governments and large corporations may be willing to fund the use of ICNs by their own personnel if the devices would be utilized to enhance the information security of those institutions or the constituencies they serve – such as when used by specialized military, police, health care, or corporate business intelligence and InfoSec personnel (“Bridging the Bio-Electronic Divide,” 2016; Szoldra, 2016). Moreover, expenditures enabling the successful widespread use of ICNs to treat disorders such as Alzheimer’s disease (Ansari et al., 2007) could be understood as enhancing the ‘information security’ of significant populations within society (e.g., by increasing the integrity, availability, and utility of memories and other information available to affected individuals and the autonomy of such human beings as host-device systems) and could potentially be justified by government health services on the grounds of improving public health and generating long-term savings on health care costs.

#### *Installers: Hospitals and Physicians Who Implant Devices*

Small clinics or hospitals with great expertise in performing surgical procedures may not possess equivalent expertise in information security (ISO 27799, 2008, p. v), making it impossible for them to ensure adequate information security during the preparatory, surgical, and recovery stages of an ICN implantation.

However, the implantation of ICNs by hospitals and physicians to treat disorders such as Alzheimer’s and Parkinson’s diseases (Ansari et al., 2007; Van den Berg, 2012), treat emotional and psychological disorders (McGee, 2008, p. 217), and regulate levels of conscious alertness (Claussen & Hofmann, 2012; Kourany, 2013, pp. 992-93) could help fulfill their duty of care by enhancing the availability and integrity of patients’ information and the autonomy of the patients’ host-device systems. Possession of ICNs by a hospital’s medical personnel could also enhance the availability of information for those personnel by, e.g., providing instantaneous, hands-free access to online reference texts (Gladden, 2015, pp. 33, 156-57; McGee, 2008) or real-time advice from other medical personnel (Rao et al., 2014; Gladden, 2015, pp. 32-33). It has been estimated that effective InfoSec practices in fields like health care can increase organizational performance by up to 2% (ISO 27799, 2008, p. vi); if the use of ICNs by medical personnel would enhance their institutions’ InfoSec performance, there may thus be managerial and financial incentives for their deployment, beyond any directly health-related rationales.

#### *Hosts: Human Subjects and End Users of Neuroprosthetic Devices*

The human hosts of ICNs subject themselves to the potential introduction of computer viruses, worms, or malware (ISO 27799, 2008, p. 45; “Cybersecurity for Medical Devices,” 2013, p. 1) into their own cognitive processes and make their own thoughts and memories potential targets for attacks by hackers and other adversaries (ISO 27799, 2008, p. 45; Denning et al., 2009; Gladden, 2015). InfoSec failures relating to a host’s ICN could result in a loss of autonomy and personal identity; psychological, physical, economic, or social harm; or potentially even the host’s death (ISO 27799, 2008, p. 5; Gladden, 2015, pp. 145-68).

At the same time, particular human beings may have an incentive to acquire and utilize ICNs in order to combat the effects of Alzheimer’s disease, Parkinson’s disease, emotional disorders, sleep disorders, and other conditions that negatively impact the integrity and availability of memories stored within their brains and the integrity and autonomy of the ongoing information-processing activities of the individuals’ minds (Ansari et al., 2007; Van den Berg, 2012; McGee, 2008, p. 217; Claussen & Hofmann, 2012; Kourany, 2013, pp. 992-93; Soussou and Berger, 2008; Gladden, 2015, pp. 26-27). Individuals may also be able to use ICNs to enhance their information security beyond what is naturally possible for human beings – such as by artificially increasing the quantity and quality of external information accessible to their minds (Koops and Leenes, 2012; Merkel et al., 2007; Robinett, 2002; McGee, 2008, p. 217; Gladden, 2015, pp. 156-57) or enhancing their ‘internal’ memory capacity beyond natural limits (Spohrer, 2002; McGee, 2008; Warwick, 2014, p. 267; Gladden, 2015, pp. 33, 148).

#### *Operators: Managers of Systems That Monitor and Control Devices*

ICNs may create residual risks that the operators of ICN systems are not able to mitigate through the implementation of compensating controls and which may endanger ICNs’ ‘essential clinical performance’ (see *Postmarket Management of Cybersecurity*, 2016, pp. 9, 15). For example, given an ICN’s implantable nature, it may be impossible to maintain a secure physical perimeter around the device (ISO 27799, 2008, p. 29) and protect it from electromagnetic radiation and other potentially disruptive environmental emissions (ISO 27799, 2008, p. 30). For ICNs that store and process data in the form of a biological or biomimetic neural network, it may be impractical or even impossible to regularly back up the devices’ data in its entirety to a location that is physically secure in order to ensure its long-term availability (ISO 27799, 2008, p. 32; Gladden, 2015, p. 236). Potential operators may also decide not to deploy or support ICNs due to the fact that the organizations’ standard InfoSec practices cannot be applied to such devices. For example, operators of a health information system might typically limit network bandwidth for a compromised device or throttle its functionality in order to prevent it from degrading system services otherwise misusing system resources (ISO 27799, 2008, p. 46); such a



response may be impermissible if it would endanger the human host of a compromised ICN – who may not even be responsible for his or her device's excessive resource demand.

On the other hand, public health services may choose to operate ICN systems precisely in order to enhance the information security of patients suffering from cognitive disorders that disrupt the brain's ability to store or use information (Ansari et al., 2007; Han et al., 2009; Ramirez et al., 2013; McGee, 2008; Warwick, 2014, p. 267; Soussou and Berger, 2008). Operators of ICN systems might also include government military or police agencies, large corporations, or other institutions for which maximizing information security and combatting InfoSec threats is a critical organizational objective; in particular, personnel augmented by such devices could be more effective at gathering and analyzing intelligence and protecting organizations from cyberattacks (Schermer, 2009; Brunner & Schalk, 2009; Gladden, 2015, p. 34). In the case of individual senior political figures or corporate executives, implantation of an ICN may be warranted in order to counteract the effects of Alzheimer's disease, Parkinson's disease, or other cognitive disorders that could impair the individuals' information security and thereby imperil the mission of the institutions in which they work (see Gladden, 2015, pp. 144, 213, 216-17).

#### *Maintainers: Providers of Software Updates and Physical Maintenance Services*

Organizations (including third-party businesses) that provide physical maintenance services, antivirus software and updates, and other applications, upgrades, or accessories to expand the functionality of ICNs may be constrained in their ability to access necessary device functions and data due to legal restrictions regarding the privacy of personal health information (*ISO 27799*, 2008, p. 24) that bind the devices' installers and operators. Moreover, maintenance errors by third-party service providers can open a device to attacks (*ISO 27799*, 2008, p. 48) and create liability for those service providers. Such service providers recognize that a 'masquerade' committed by their own personnel to obtain unauthorized information relating to an ICN (either for financial reasons, to advance hacktivism, out of curiosity, or for other purposes) is also a very real danger (*ISO 27799*, 2008, p. 45); in the case of ICNs, the chance that such InfoSec breaches would cause severe psychological or physical harm to a device's host creates risks that service providers may be unwilling to bear.

Regardless of how and why ICNs have been implanted, though, the provision of effective maintenance and upgrade services is necessary in order to protect their users' lives and ensure their information security (*Postmarket Management of Cybersecurity*, 2016) – thus creating a potentially profitable market for such services. In the absence of regular maintenance and upgrades, ICNs would be vulnerable to new and evolving threats – which is an especially critical problem in the case of devices that are so closely integrated with their hosts' brain functions.

## CONCLUSION

Many factors determine whether and how quickly particular new biotechnologies are developed and deployed. There is a widespread presumption that the need to ensure information security for organizations and individuals can create obstacles that *impede* or *disallow* the adoption of sensitive biotechnologies but that it cannot *accelerate* or *facilitate* the adoption of such technologies. It is rarely acknowledged by researchers, regulators, or industry practitioners that the desire for information security might itself potentially help drive the development and implementation of technologies such as implantable cognitive neuroprostheses. Thus the Medical Device Privacy Consortium argues, for example, that information security concerns “threaten to disrupt critical information flows to and from medical device companies” (“Welcome,” *Deviceprivacy.org*, 2016), and the FDA contends that effective cybersecurity is needed to safeguard the functionality of implantable devices (*Content of Premarket Submissions*, 2014, p. 1). In the policy statements, standards, and outreach campaigns of such leading bodies there is no hint that the converse might also be true – i.e., that properly designed and functioning ICNs and other implantable devices might be deployed precisely for the purpose of safeguarding and enhancing information security of individual users, organizations, or sizeable populations within human society.

By applying the framework developed in this paper to analyze issues raised in industry standards and scholarly literature, we have shown that when ‘information security’ is appropriately understood in its full sense of assuring the confidentiality, integrity, availability, possession, authenticity, utility, distinguishability, rejectability, and autonomy of information and information systems, for each of the actors involved in the process of developing and deploying ICNs it is possible for InfoSec concerns to serve either as an obstacle that discourages an actor from taking part *or* as a driving factor that encourages an actor to participate in the development and adoption of ICNs. This is true despite – or perhaps because of – the fact that among all forms of implantable devices, ICNs are those that are most intimately integrated with the neural circuitry of their human hosts and which are able to most directly participate in cognitive processes that are critical for their hosts’ psychological and physical well-being. It is our hope that conceptual frameworks such as the one developed here can serve as a basis for further theoretical and empirical studies to explore the ways in which InfoSec concerns can either hinder or impel the adoption of ICNs and other potentially revolutionary biotechnologies.

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# NEUROMARKETING APPLICATIONS OF NEUROPROSTHETIC DEVICES: AN ASSESSMENT OF NEURAL IMPLANTS' CAPACITIES FOR GATHERING DATA AND INFLUENCING BEHAVIOR

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## ABSTRACT

Neuromarketing utilizes innovative technologies to accomplish two key tasks: 1) gathering data about the ways in which human beings' cognitive processes can be influenced by particular stimuli; and 2) creating and delivering stimuli to influence the behavior of potential consumers. In this text, we argue that rather than utilizing specialized systems such as EEG and fMRI equipment (for data gathering) and web-based microtargeting platforms (for influencing behavior), it will increasingly be possible for neuromarketing practitioners to perform both tasks by accessing and exploiting neuroprosthetic devices already possessed by members of society. We first present an overview of neuromarketing and neuroprosthetic devices. A two-dimensional conceptual framework is then developed that can be used to identify the technological and biocybernetic capacities of different types of neuroprosthetic devices for performing neuromarketing-related functions. One axis of the framework delineates the main functional types of sensory, motor, and cognitive neural implants; the other describes the key neuromarketing activities of gathering data on consumers' cognitive activity and influencing their behavior. This framework is then utilized to identify potential neuromarketing applications for a diverse range of existing and anticipated neuroprosthetic technologies. It is hoped that this analysis of the capacities of neuroprosthetic devices to be utilized in neuromarketing-related roles can: 1) lay a foundation for subsequent analyses of whether such potential applications are desirable or inappropriate from ethical, legal, and operational perspectives; and 2) help information security professionals develop effective mechanisms for protecting neuroprosthetic devices against inappropriate or undesired neuromarketing techniques while safeguarding legitimate neuromarketing activities.

**Keywords:** *neuromarketing; neuroprosthetics; neural implants; consumer behavior; marketing; biocybernetics; neurocybernetics; brain-computer interfaces (BCIs); information security; privacy*

## INTRODUCTION

Ongoing developments in the field of neuromarketing are being made possible by innovative applications of various technologies. For example, neuromarketing researchers and practitioners rely on instruments such as EEG and fMRI equipment to gather data about the ways in which potential consumers respond on a subconscious or unconscious level to the contents of advertisements or other stimuli. Once such insights have been developed, websites, email, and social media platforms and other technologies utilizing microtargeting approaches can be applied to deliver personalized advertising messages that are shaped to maximize their appeal to an individual recipient.

In this text, we argue that the emerging technologies of sensory, cognitive, and motor neuroprosthetics are creating powerful new tools that can potentially be used by neuromarketing professionals both for gathering data about the cognitive activity of potential consumers and for influencing their behavior. Rather than immediately developing an ethical, legal, or business analysis of the case for or against utilizing neuroprosthetic devices in such neuromarketing-related roles, our focus in this text is on the conceptually prior task of formulating a comprehensive framework for analyzing the technological and biocybernetic capacities of neuroprosthetic devices to be employed in such roles.

It is hoped that this conceptual framework can inform further investigations of the propriety and desirability of neuroprosthetically facilitated neuromarketing approaches from ethical, legal, and business perspectives. Such a framework can also facilitate the work of information security (InfoSec) professionals in two ways. First, InfoSec personnel must develop effective mechanisms for protecting neuroprosthetic devices against external actors' deployment of neuromarketing techniques that are considered unwelcome by the users of such devices or which are inherently unethical or illegal. Second, InfoSec personnel must ensure that those forms of neuromarketing conducted by means of neural implants that are acceptable to and authorized by the devices' users are performed in a way that suitably protects the confidentiality, integrity, and availability of information belonging to all of the stakeholders involved in those activities. Developing and employing frameworks such as the one described in this text will become especially important as the number of human beings who possess neural implants continues to grow: while such devices are currently employed primarily to treat particular medical conditions, it is anticipated that their increasing use for purposes of human augmentation and elective enhancement will continuously expand the portion of society that utilizes such technology. Moreover, due to the kinds of enhanced capacities that neuroprosthetic devices may grant and the great expense, surgical risks, and other obstacles involved with the acquisition of such devices, the groups of people who possess neuroprosthetic implants for medical or augmentative purposes may tend to disproportionately manifest particular cognitive, biological, professional, or

socioeconomic characteristics (such as holding senior-level positions in business or government or possessing above-average levels of wealth) that make them especially attractive targets for particular kinds of neuromarketing. It is thus important to understand the full spectrum of ways in which neural implants might be employed for neuromarketing purposes.

Before our two-dimensional framework is presented, it will be helpful to briefly review the nature of neuromarketing and neuroprosthetic devices.

## **AN OVERVIEW OF NEUROMARKETING**

The concept of 'neuromarketing' has been defined in various ways. Some definitions seek to position neuromarketing primarily as an academic discipline that analyzes consumer behavior through the lens of neuroscience. Lee et al. (2007, p. 200) emphasize the academic aspect, arguing that "neuromarketing as a field of study can simply be defined as the application of neuroscientific methods to analyze and understand human behaviour in relation to markets and marketing exchanges." Other definitions position neuromarketing primarily as a business practice; for example, for Fisher et al. (2010), neuromarketing can be "defined as marketing designed on the basis of neuroscience research [...]." Still other definitions span both spheres, positioning neuromarketing as the applied branch of the academic field of 'consumer neuroscience' (Fisher et al., 2010).

In both its academic and applied forms, neuromarketing seeks to help businesses and other organizations understand how particular stimuli (such as the words or images used in TV advertisements or the background music played in retail stores) influence potential consumers' behavior; however, it does this not by asking individuals for their conscious reaction to stimuli but by directly monitoring biological activity in the brain or other organs in order to detect subconscious or unconscious cognitive responses that the individuals themselves cannot clearly describe or do not even realize that they are manifesting (Fisher et al., 2010). Such research might, for example, measure how consumers' 'willingness to pay' (WTP) for different products and services is influenced by the presentation of different stimuli (Ariely and Berns, 2010). In order to gather such data, neuromarketing utilizes technologies such as electroencephalography (EEG), magnetoencephalography (MEG), functional magnetic resonance imaging (fMRI), Galvanic skin response (GSR), electrocardiography (EKG), electromyography (EMG), and eye tracking to detect responses to stimuli (Fisher et al., 2010; Lee et al., 2007; Morin, 2011; Ariely and Berns, 2010).

Applied forms of neuromarketing utilize the knowledge obtained by means of such technologies in order to craft designs for products and packaging, advertising messages, website content, and other goods, communications, or stimuli that are formulated to maximize the positive response on the part of

potential consumers. Although accounts in the popular media sometimes focus on the perceived danger that neuromarketing techniques might allow businesses or other organizations to illicitly manipulate the brain and coerce consumers into taking actions against their own will, when used ethically neuromarketing practices can play a positive role in matching consumers with the goods and services that they most truly desire (Ariely and Berns, 2010). Neuromarketing techniques can be applied effectively in such diverse areas as the development of TV advertisements for food products, the architectural design of new buildings, and the management of political campaigns (Ariely and Berns, 2010).

## AN OVERVIEW OF NEUROPROSTHETIC DEVICES

Neuroprosthetic devices are pieces of technology that are directly integrated into the human body's neural circuitry (Gladden, 2015b, p. 20; Gladden, 2016; Lebedev, 2014). At present, such neuroprostheses are typically invasive devices designed to be surgically implanted in the body of their human host (often, though not always, within the brain itself); while non-invasive technologies such as EEG and fMRI equipment may be utilized as brain-computer interface (BCI) technologies in a broader sense, they are not generally considered to be neuroprostheses insofar as they are not "integrated into the neural circuitry" of their human subject in a direct and long-term manner. While future technological advances may yield a growing range of non-invasive neuroprostheses that can be incorporated into an individual's neural circuitry without physically entering the brain, for purposes of this text the phrases 'neuroprosthetic device' and 'neural implant' can be considered roughly synonymous. Neuroprostheses should not be confused with passive RFID tags or other kinds of implantable devices that may provide valuable information relating to their host's physical location or movements but which – because they are not integrated into a host's neural circuitry – do not directly gather information about or influence a host's cognitive activity.

### *Classification of Neuroprostheses by Function*

Particular neural implants can be described as *sensory*, *cognitive*, or *motor* neuroprostheses; a neural implant may also combine more than one of these functions in a single device (Lebedev, 2014; Gladden, 2015b).

Sensory neuroprostheses provide sense data to the brain of their human host. Most existing sensory neuroprostheses are utilized for purposes of treating medical conditions; such devices already in use include cochlear implants and artificial retinas (Koops and Leenes, 2012; Gladden, 2015b, pp. 22-24). However, the use of sensory neuroprostheses for purposes of human augmentation and enhancement has already begun on an experimental basis and is expected to grow in the coming years; such



technologies might, for example, provide a human subject with telescopic or infrared vision or the ability to hear ultrasonic frequencies (Warwick, 2014; Gasson et al., 2012; Merkel et al., 2007).

Cognitive neuroprostheses affect cognitive processes and phenomena internal to the brain of their human host (Gladden, 2015b, pp. 26-27), including imagination (Cosgrove, 2004; Gasson, 2012), emotion (Soussou and Berger, 2008), conscious alertness (Kourany, 2013, pp. 992-93), and the sense of personal identity (Van den Berg, 2012). While it is not possible to precisely edit the contents of memories within a human mind using existing cognitive neuroprosthetic technologies – and may never be possible, if the nature of memory storage within the brain is sufficiently holographic or holistic (Levy, 2010, p. xv) – experimental technologies have, for example, already been developed that can create or erase simple memories in the brains of mice (Ramirez et al., 2013; Han et al., 2009).

Motor neuroprostheses, meanwhile, either detect motor instructions within the brain of their human host and convey them to some external system or generate motor instructions which the brain itself is not able to provide (Lebedev, 2014; Gladden, 2015b, pp. 24-26). Such devices allow their hosts to control robotic prosthetic limbs, motorized wheelchairs, or computers (Donchin and Arbel, 2009); are used to treat conditions such as bladder function disorders, swallowing disorders, and sleep apnea; provide a means of communication for paralyzed patients suffering from ALS, traumatic brain injury, or stroke (Taylor, 2008); and can potentially be used to treat conditions such as epilepsy (Fountas and Smith, 2007), Alzheimer's disease, anxiety disorders, bulimia, and addictions (Ansari et al., 2007) or to allow their users to control external networked systems such as drones or 3D printers (Gladden, 2015a).

#### *Biocybernetic Aspects of Neuroprosthetic Devices*

The field of cybernetics offers a transdisciplinary theoretical framework and vocabulary that can translate insights between the diverse range of disciplines that study patterns of communication and control in machines, living organisms, or social systems (Wiener, 1961). In the case of neuroprosthetic devices, such processes of communication and control involve both the devices themselves and the biological organisms in which they are implanted. When neural implants are viewed from a biocybernetic perspective, one considers not only their internal physical components and behaviors but also the ways in which they interact with a host's organism through executing, sharing in, or being affected by processes of communication and control.

While the interaction between a neural implant and human host may be relatively simple and unidirectional (such as when a cochlear implant electrically stimulates the cochlear nerve to present auditory sense data to the mind of its human host), a growing number of neuroprosthetic devices create complex biocybernetic feedback loops that allow their human users to both manipulate some

external physical or virtual environment and then sense the ways in which that environment has been altered as a result of their actions (Gladden 2015a; Fairclough, 2010; Park et al., 2009).

## FORMULATING A TWO-DIMENSIONAL FRAMEWORK CAPTURING POTENTIAL NEUROMARKETING APPLICATIONS OF NEUROPROSTHETIC DEVICES

In addition to deploying specialized equipment (such as dedicated fMRI and EEG devices) to gather data about consumers' responses to stimuli and relying on customized tools such as microtargeting websites and TV advertisements to deliver the marketing messages that are developed as a result, we suggest that it will increasingly be possible for neuromarketing professionals to accomplish both tasks by utilizing neuroprosthetic devices that have already been implanted in members of the public for therapeutic or augmentative purposes and which possess direct access to the neural circuitry of their human hosts.

We would argue that such potential applications of neuroprosthetic devices for neuromarketing can be effectively identified and analyzed with the assistance of a two-dimensional conceptual framework that reflects: 1) the different functional types of neuroprosthetic technologies; and 2) the fact that a given technology can be employed either to gather data about consumers' cognitive activity or to influence consumers' behavior.

It should be noted that the conceptual framework presented in this text is intended to capture the full universe of potential neuromarketing applications of neuroprosthetic devices that are expected to become *technologically feasible* during the coming years; it is not, however, claimed that all (or even any) potential applications identified through use of this framework are *ethically meritorious or legally permissible*. Indeed, one of the anticipated uses of the proposed framework is to aid government policymakers, ethicists, neuroprosthetic device manufacturers, InfoSec professionals, and neuromarketing researchers and practitioners to identify new ethical questions and concerns that result from the increasing availability within the general population of implanted neuroprosthetic devices that can be exploited for neuromarketing purposes and to develop more robust legal and regulatory frameworks, industry best practices and ethics guidelines, and InfoSec countermeasures and controls to address such possibilities.

We can now consider each of the framework's axes in more detail.

*First Axis: Functional Types of Neuroprosthetic Devices*

One axis of the framework delineates the main functional types of neuroprosthetic devices – namely, 1) sensory, 2) cognitive, and 3) motor neuroprostheses. There is not a separate category for hybrid neuroprosthetic devices that combine multiple types, such as a bidirectional sensorimotor neuroprosthesis in the form of a robotic prosthetic arm that allows a human amputee to both feel the pressure of an object held within the robotic fingers' grasp and to control the fingers' motion through his or her thoughts; such a hybrid device could be analyzed within this framework as though it were a set of separate sensory and motor neuroprostheses.

*Second Axis: The Role of Gathering Data or Influencing Behavior*

The second axis of our framework describes two critical roles that a particular technological device might play within the practice of neuromarketing: 1) gathering data about potential consumers' cognitive activity; or 2) influencing potential consumers' behavior.

At present, the more widely accepted and employed use of neurotechnologies in neuromarketing is in gathering data about the way in which the brain of a potential consumer responds to different kinds of stimuli (Lee et al., 2007; Fisher et al., 2010; Morin, 2011). For example, neuromarketing research has used EEG and MEG technologies to study how the brain reacts differently to various kinds of advertisements and which types of formats and elements can be employed to optimize the processes of attention, memory, and trust that are needed to cultivate brand recognition and loyalty in consumers who are exposed to such advertisements (Lee et al., 2007, p. 201).

A more controversial role that neurotechnologies might possibly play within the field of neuromarketing is that of influencing or even directly controlling the behavior of consumers. Certainly, the use of technological media such as TV advertisements to influence consumers' actions is a longstanding and widely accepted practice. However, neurotechnologies provide new and potentially vastly more powerful tools for attempting to shape consumers' behavior. Such influence can be created either indirectly (e.g., through the creation of cybernetic sensorimotor feedback loops that incentivize and 'train' consumers to behave in particular ways) or directly, through the immediate artificial stimulation of neurons within the brain. While it is not feasible to directly influence consumers' neural activity without their knowledge or consent employing current technologies like EEG and fMRI (Fisher et al., 2010; Murphy et al., 2008, pp. 297-98), such actions might be possible in the future if consumers' existing neuroprosthetic implants could be accessed and exploited (Bonaci et al., 2015) by neuromarketing practitioners.

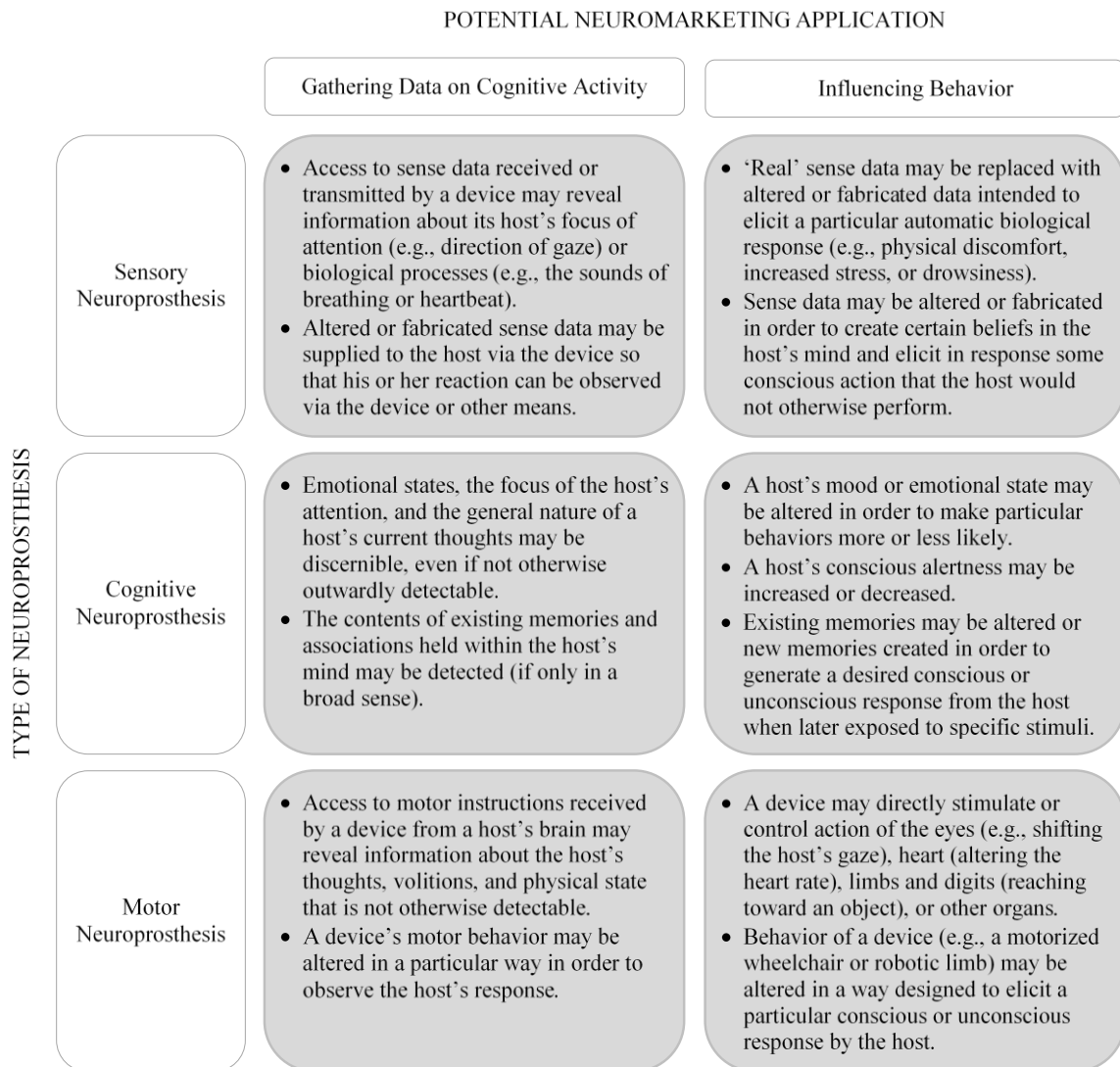


Figure 1. *Figure 1. For each of the three types of neuroprosthetic devices (sensory, cognitive, and motor neuroprostheses) it is technologically and biocybernetically conceivable that such a device could be used for the two key neuromarketing roles of gathering data about the cognitive activity of the device's human host or influencing the host's behavior. Examples of such applications are described in this diagram.*

#### Completing the Framework

When the two axes described above are combined, they yield a matrix of the sort depicted in Figure 1. For each of the six fields within the matrix, a description is shown of ways in which that type of neuroprosthetic device might fill that type of neuromarketing role, based on the device's technological and biocybernetic characteristics.

## TECHNOLOGICAL AND BIOCYBERNETIC ASSESSMENT OF POTENTIAL NEUROMARKETING APPLICATIONS OF NEURAL IMPLANT TYPES

Having formulated this two-dimensional framework, we can now use it to identify capacities possessed by particular types of neuroprosthetic devices that are already in use or whose development is being pursued that can allow them to be employed in the dual neuromarketing roles of gathering data about the cognitive activity of the devices' human hosts or influencing the hosts' behavior. As noted earlier, the analysis of sensory, cognitive, and motor neuroprostheses presented below is not an assessment of the ethical or legal propriety or commercial desirability of utilizing neuroprosthetic devices for such purposes but rather a technological and biocybernetic assessment of the capacity of neural implants to be employed in such ways by an organizational or individual actor who wishes to utilize them in such a manner.

### *Sensory Neuroprostheses: Assessment of Potential Neuromarketing Applications*

The commercial utilization of BCIs to detect covert mental states in the devices' human hosts for purposes of carrying out neuromarketing activities is noted by Brunner et al. (2011) as an emerging application for BCIs. One form that this activity might take is the exploitation of sensory neuroprosthetic devices that are already implanted in human hosts for medical or augmentative purposes in order to gain access to data about the hosts' cognitive processes. From a technological perspective, it is possible to perform such actions either with the knowledge and consent of a device's human host (e.g., if the individual 'opts in' to allowing a marketing firm or other company to have limited access to data contained in his or her sensory neuroprosthesis) or in a surreptitious and likely unlawful manner (e.g., by compromising or replacing the components of an already existing BCI device (Bonaci et al., 2015)). Data received or transmitted by a sensory neuroprosthesis and made available to neuromarketers might reveal information about its host's focus of attention (e.g., by decoding information from an artificial retina to detect the direction of its host's gaze) or biological processes (e.g., by filtering the audio data generated by a cochlear implant to detect its user's heart rate or breathing patterns). Moreover, altered or fabricated sense data representing particular stimuli might be supplied to the host's brain via the sensory neuroprosthesis so that the host's unconscious reaction could be observed using the device itself or another mechanism.

It is also technologically possible for various kinds of sensory neuroprostheses to be used legitimately or illicitly to influence the behavior of their human hosts. Daigle (2010, p. 40) notes that manipulation of the sensory signals reaching the brain can be used as a means of influencing or controlling the brain's behavior; for example, by hacking the artificial retinal implants of a human host and providing him or her with fabricated visual information that creates a particular (mistaken) belief about the host's

environment or physical state, the host could be induced to enact certain conscious physical responses that he or she would not otherwise perform. (For example, a host who is artificially made to feel thirsty or to falsely perceive that all of the other patrons of a restaurant are greatly enjoying their beverages might himself or herself choose to order a drink.)

Bublitz (2011, pp. 111-12) distinguishes between ‘indirect’ and ‘direct’ interventions in an individual’s cognitive processes: *indirect interventions* include the presentation of stimuli to sensory organs (e.g., in the form of music, spoken language, or TV advertisements) that are processed by the brain along with all other external environmental stimuli, while *direct interventions* include techniques such as deep brain stimulation (DBS) and transcranial magnetic stimulation (TMS) that use technological means to artificially and directly stimulate neurons within the brain. According to that schema, the use of sensory neuroprosthetics to influence a host’s behavior will typically constitute ‘indirect’ interventions, while ‘direct’ interventions might be performed more readily, for example, through the manipulation of cognitive neuroprosthetics.

#### *Cognitive Neuroprostheses: Assessment of Potential Neuromarketing Applications*

There are numerous ways in which already-implanted cognitive neuroprostheses could potentially be utilized by neuromarketers to gather data about the cognitive activity of their human hosts. Through access to data contained in such devices, a host’s emotional states, the focus of a host’s attention, and the general nature of a host’s current thoughts may be discernible, even if they are not otherwise outwardly detectable. While it might not be theoretically possible for a neuroprosthetic device to identify complex semantic content of specific memories, it may be possible for a cognitive neuroprosthesis to determine on the basis of neural signals that, for example, its human host is listening to a particular piece of music (Horgan, 2004). Even generalized access to the contents of cognitive processes might help accomplish neuromarketing goal such as that of identifying “the relationship between smells and colors of food products” (Lee et al., 2007, p. 200).

Influencing a host’s behavior through the use of an implanted cognitive neuroprosthetic device is also quite feasible. For example, deep brain stimulation can be employed to alter a user’s moods (Bublitz, 2011, p. 116). Kohno et al. (2009) and Bublitz (2011, pp. 97-98) explicitly consider the possibility that hackers might illicitly access neural implants that have been installed in human hosts for legitimate therapeutic purposes such as DBS and use them to influence their hosts’ thoughts, moods, and emotions in order to directly shape their behaviors as consumers – i.e., for purposes of neuromarketing. Analyzing the mind-altering effects of DBS that have already been demonstrated, Rowland et al. (2013) similarly raise the question of whether brain-machine interface devices might be used for ‘cognitive

control.' It is also known that transcranial magnetic stimulation can affect the formation of volitions (Bublitz, 2011, p. 116). TMS devices induce an electric current in neurons in order to facilitate or inhibit synaptic activity; such tools have been used by researchers to temporarily take particular brain regions 'offline,' thereby allowing researchers to determine how the brain's performance of specific tasks is affected by impairing the functioning of those regions (Ariely and Berns, 2010). Having gained such knowledge through their use, the same or similar technologies could potentially be employed to elicit or block particular kinds of cognitive activity. It has also been shown that commercially available BCI technologies can already be used to develop 'brain spyware' or 'BCI-enabled malicious applications' which, for example, can electrically stimulate the brain to impede users' responses when they are lying (Bonaci et al., 2015, p. 35; Lubner et al., 2009).

Moreover, if neuroprosthetic implants can store memories – thus serving as a sort of 'supplemental memory' to the storage capacity of the brain's natural biological neural network (Daigle, 2010, p. 37; Gladden, 2015b, pp. 148-49) – then any mechanism that can manipulate or alter the contents of such devices could be used to influence future behaviors that are dependent on or affected by such memories. Noting researchers' assessment of DARPA's ongoing \$40 million Restoring Active Memory (RAM) and Systems-Based Neurotechnology for Emerging Therapies (SUBNET) programs to develop next-generation implantable neuroprosthetics for treating memory and cognitive disorders, Talan (2014, pp. 9-10) cites "a growing concern that the manipulation of brain networks" by means of such devices "could be used as a form of mind control." Similarly, Krishnan (2014, p. 10) notes the possibility that an actor might compromise an implanted neural device in order to influence or control the behavior of its human host; he distinguishes the application of such 'mind hacking' to exercise short-term control over its host's body versus using it to effect a permanent 'rewiring' of the host's memories or behavior (Krishnan, 2014, p. 10).

#### *Motor Neuroprostheses: Assessment of Potential Neuromarketing Applications*

There are various means by which conventional motor neuroprostheses already implanted in human hosts could potentially be utilized by neuromarketers to gather data about the cognitive activity of those hosts. For example, access to motor instructions received by a device from a host's brain may reveal information about the host's thoughts, volitions, and physical state that is not otherwise detectable (Gladden, 2015b, pp. 24-26). It may also be possible to disrupt, control, or otherwise alter a device's motor behavior in a particular way in order to observe the host's response to that unexpected stimulus.

A motor neuroprosthetic device could also be used to directly stimulate or control action of the eyes (e.g., shifting the host's gaze to a particular object), heart (e.g., artificially increasing or decreasing the heart rate), limbs and digits (e.g., extending an arm to reach for an object), or other organs. The behavior of a device such as a motorized wheelchair or robotic limb might also be altered in a way that is designed to elicit some desired conscious or unconscious response by the device's human user. Already, tens of thousands of people worldwide possess implanted neuroprosthetic devices used for deep brain stimulation, which is employed primarily to treat Parkinson's disease and other movement disorders but which has also been found to generate mood changes in patients (Daigle, 2010, pp. 35-36; Van den Berg, 2012); such neuroprostheses could potentially be used to alter the moods of their human hosts in a way that would make certain consumer activities more or less likely at a given point in time.

## CONCLUSION

As we have seen, the kinds of neuroprosthetic devices that are utilized by a growing segment of the population for the treatment of medical conditions or for purposes of human enhancement constitute powerful new tools that can conceivably be used for the two key neuromarketing tasks of gathering data about the ways in which potential consumers' cognitive processes react to particular stimuli and delivering stimuli that can influence consumers' behavior in a desired fashion. While general questions have already been posed by ethicists and others regarding the use of neuroprosthetic devices to gather information about the cognitive activity of their human hosts – either surreptitiously or with the hosts' consent – and to influence the hosts' behavior, such issues have not yet been comprehensively explored from the perspective of the technological and biocybernetic capacity of neuroprosthetic devices to be employed for such purposes within the field of neuromarketing. The conceptual framework proposed in this text represents one approach to developing such a framework; it is hoped that it can aid scholars and practitioners in identifying and exploring the practical, legal, and ethical issues that arise if neuroprosthetic devices that have been implanted in human hosts for other purposes are accessed and utilized by neuromarketing professionals for neuromarketing-related ends. Moreover, it is hoped that the schema presented in this text can assist InfoSec professionals in developing robust security practices and mechanisms both to safeguard the users of neuroprosthetic devices against undesired and illicit forms of neuromarketing and to ensure that legitimate forms of neuromarketing conducted by means of neural implants are carried out in a way that appropriately protects the confidentiality, integrity, and availability of the information of all stakeholders who participate in such activities.



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## IS MENTORING HELPING WOMEN GETTING PROMOTED IN GERMAN COMPANIES?

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### ABSTRACT

Gender diversity in higher management levels of companies is becoming an increasingly relevant topic – organisations in general are realising the necessity of having a higher proportion of women in higher level management positions. This can only be achieved through actively promoting women in business. Various HR instruments are available to support a gender diversity strategy, one of which is mentoring. This paper ascertains in what way mentoring is a sustainable instrument for the promotion of women in business specifically in Germany, by analysing mentoring programmes in various German companies from the points of view of both mentees and mentors. With the help an online survey amongst female mentors and mentees and the theory given in the literature, the organisational aspects as well as the implementation of such programmes are assessed with the aim of recognising potential areas of improvement for companies in Germany in future. Based on this analysis, it can be concluded that mentoring for women is organised quite successfully in Germany, but that nevertheless certain areas of consideration exist in view of the general organisation and the communication and marketing of the programme.

*This article is based on the unpublished Bachelor's thesis of Briony Gilbertson, handed in at Pforzheim University of Applied Sciences in July 2013*

**Keywords:** *Mentoring, Gender Diversity, German companies, Sustainable instruments in Human Resources, Female Top-Managers*

### INTRODUCTION

Women are still underrepresented in the highest levels of German organizations. Although the possible benefits of having more female managers in higher level management might expected, there is no legal obligation for German companies to increase the number of women in their boards. It seems that German women do not want to be token women, but prefer to be selected only on the basis of their qualifications and not on the basis of their gender in order to fulfill quotas. Therefore large German companies have been introducing HR tools in order to push women to the top without using quotas. One of the reasons why women are not reaching top management is often associated with the Innovation, Entrepreneurship and Digital Ecosystems

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lack of female internal and external networking. Women do not seem to be as good networkers as men and need support to enter networks. One possible solution is to implement mentoring, a situation in which a more senior person and an employee come together to exchange professional experiences. The objective of this paper is to demonstrate to what extent mentoring is a sustainable HR instrument for the promotion of women in German companies whilst detecting areas of improvement and deriving recommendations for future implementation.

In the first part of this paper, we briefly review the effects and implications of female leadership for companies. Furthermore we give an overview of mentoring programmes in general before analytically investigating in the second part of the paper how mentoring is actually conducted in German companies and whether it fits the theoretical framework. *For this, an online survey was conducted among female employees throughout Germany. The aim was to gain insights into mentoring programmes for women from the participants' point of view.* In the final section we summarize a few recommendations for companies on how their mentoring programs could be improved in the future.

## LITERATURE REVIEW

Female leadership can have positive effects on subordinates and co-workers. An analysis during crisis times showed that women and men took different decisions leading their companies with equal success where women focused more on client relations and employment benefits (Alonso Almeida, Bremser, 2015). Women in management positions can also better relate to the needs of female consumers or customers, as they can take the female “insider” point of view, a consideration which is especially important in times of growing female customer bases (Pullen, 2010). This can allow companies to take advantage of the entire potential market and avoid blind spots which might occur in a homogeneous male leadership group (Deutsche Gesellschaft für Personalführung e.V., 2012). Finally, having women in higher management positions allows the company to outperform competitors with few or even no women in higher level positions. An extensive study by Roy Adler (2001) shows that among the Fortune 500 companies, 25 enterprises with a large number of female executives were between 18% and 69% more profitable than those companies which did not have as many women in higher management positions. Other studies have been conducted on the same topic and have come to similar results (Perryman et al, 2016, and Post and Byron, 2015).

Furthermore a larger amount of women in higher management positions improve the corporate governance structures of companies (Visser, 2011). In Europe, Germany ranks average, with a ratio of female board members of 12.8% (Zehnder, 2012). Schwarze et al. (2012) proved a general increase in the number of women not only in higher management positions, but also in middle and lower

management: between 2001 and 2010, for example, German private businesses experienced a general increase of female managers from 22% to 30% (Holst and al, 2012).

Nevertheless, the further up the hierarchy one goes, the fewer female managers there are. A study by McKinsey & Company from 2012 showed that from an average of 37% female employees, only 2% managed to reach the level of CEO. *In general, female participation in management remains low as several studies have shown (Dezso et al., 2016).* The following three factors were identified in an analysis of Egon Zehnder International (2012): firstly, even though more and more women are joining boards in Europe, they are mostly appointed as non-executive directors (NEDs), of which they represent 18.1%. Women with actual managerial power account for only 4.8% of all executive directors (EDs). Germany is just below the European average, with 15.9% female NEDs and 4.5% female EDs, though Devillard and al. (2012) highlighted an upward turn to be expected in future, as 16% of all new ED positions were filled by women in 2011. Secondly, there is a substantial difference between different sectors and industries: while 33.3% of the board positions in European companies for household appliances were held by women in 2012, the steel industry only accommodated an average of 7.9%. Overall, female board members are relatively well represented in the service and retail sectors, while their absence is clear in the technological and scientific sectors. Finally, the number of women in management positions generally depends on the size of the company. In Germany, Schwarze et al. (2012) showed that small and medium sized companies have much higher proportions of women in general management positions than larger companies, and their absolute numbers have been growing more importantly compared to large companies over the past few years.

German women are trying to fight their way into top management positions, meaning they have to break through the bonds of the “old boys’ network” (Holst and al, 2012). Apart from these social aspects, female employees are faced with structural challenges when trying to advance in their career. Many find it hard to combine their private and family life with their professional career, mainly due to a lack of childcare facilities (Goehlich, Wüst, 2015). But it is not only external factors which challenge the promotion of gender diversity in higher management levels: women themselves are often too shy to stake their claim and fear the pressure of too much responsibility, which limits their ability to self-market themselves (European Women’s Management Development, Helga Stödter Stiftung, 2010). They often await opportunities, rather than pursuing them and do not try to take as much advantage of networks as men do, even if these were available, as they are often of the opinion that career advancement should not be justified through using business contacts but through achievements and qualifications (Hewlett et al, 2011). These external and internal challenges have been recognized by businesses and politics, which are taking active steps towards more gender diversity. Germany promotes gender diversity through regulating the proportions of men and women in the employee

representative bodies, which must be equal to the gender ratio of the staff overall. Germany has also been debating about a national quota, but decided in April 2013 that there would be no introduction of such a regulation before 2020.

## MENTORING

Many German companies conduct gender diversity management and have started promotion programmes for women. Several German companies have set internal voluntary quotas, independently from any national regulation, for example the Deutsche Telekom, Bayer and Eon. All of the 30 listed companies on the German share index Deutscher Aktienindex (DAX) have worked together to introduce internal company quotas and have prepared medium- to long-term plans to realise these (Bundesministerium für Familie, Senioren, Frauen und Jugend, 2012). The actual implementation of the initiatives is linked to the overall HR activities, and should be actively supported by the HR department, which can use a broad spectrum of instruments.

One important instrument for the promotion of women in business is the implementation of mentoring programmes. Peters (2004) defines a mentoring relationship as a professional relationship between two people, who come together on a regular basis over a limited period of time, to discuss current professional topics, whereby one person is in an advisory function (mentor) while the other seeks advice (mentee). Mentoring programmes are the framework for organised and structured mentoring relationships. They are offered by organisations and can be conducted before the appointment of the mentee or during employment. The mentor is mostly an older or more highly ranked person who supports a younger or lower ranked mentee on a voluntary basis. Mentoring is therefore usually cross-generational. The relationship is traditionally organised as a top-down flow, meaning that the mentor will pass on information which the mentee can benefit from. Due to the discussions on gender diversity in higher level management positions, women have become a major target group for mentoring programmes, at various stages of their careers (Thomson, Lloyd, 2011).

Generally speaking, the objectives of mentoring programmes range from the communication of corporate culture and values, to the recruitment and support of new employees and the development of leadership skills of potential executives and the reduction of employee turnover. A major objective is the specific support in the career development of selected employees. The mentor should support the mentee with current professional challenges and help him/her on his/her future career path, not only through passing on formal facts and official information but also informal knowledge such as personal experiences, and by giving regular feed-back on behaviour and leadership skills. Furthermore, the mentor can introduce the mentee to professional networks. Mentoring should not

only help women increase their professional networks in the first instance, but also give them the competence to create new networks of their own even after the mentoring relationship is over.

Mentoring as opposed to more traditional instruments for the promotion of women is becoming more and more popular, as the more modern and flexible approach to knowledge-transfer and career development which mentoring offers coincides with the current trends for employment in general. These themselves promote increased flexibility and less static work methods. Moreover, many women actively request assistance in their career development while at the same time wanting to remain independent in their objectives and decisions (Peters, 2004).

Formal mentoring is conducted in the form of a structured programme. The idea is that career advancement should no longer rely on informal or even accidental mentoring relationships, and that organised programmes and networks are a better method for advancement. One definite advantage of formal mentoring programmes is the possibility of monitoring the development and the outcomes (Dinolfo, Nugent, 2010). In an internal mentoring programme, both mentor and mentee are from the same company, which allows the mentee to gain detailed insights into the company and corporate culture. Lukoschat and Kletzing (2006) recommend this form of mentoring if the overall objective is linked to internal developments, for example to the transfer of company-specific information or to the specific development of the mentee within the organisation. The mentor should be placed considerably higher within the organisation. External mentoring programmes are organised by a third party and match mentors and mentees from different organisations. This gives the mentees a wider choice of mentors and the opportunity of gaining experience outside their own company. The success of a mentoring program will depend on the capability to clearly state the purpose, the art and the target group of the selected program. Therefore, it is crucial to perform an internal analysis at the beginning of the process in order to clearly define these aims and objectives (Ramalho, 2014). Only once this first step has been achieved, it becomes possible to find appropriate mentors and to match them with interested mentees.

Many companies experience difficulties in attracting and recruiting appropriate mentors (United States Office of Personnel Management, 2008). Meanwhile, a mentee should be an employee or candidate who shows high potential for future managerial positions. He /she should be willing to be mentored, meaning that he/she must be open to being supported with the possibility of taking on high levels of responsibility later on. On the other hand, he/she must also be prepared to accept critical feedback and should not be afraid of setbacks or failures. To assess whether potential candidates are suitable, it is possible to conduct a screening process in which these complete a questionnaire or form, in which they state their own motivations for joining the programme and outline what goals and

objectives they have. It is very important that the mentee is strictly selected according to the target group of the programme.

Matching is the next step in the organisational phase in which the mentors and the mentees who have been selected to participate in the programme are assigned to their partners. This process should be conducted centrally by the coordinators. There is no one correct way to match the partners (Di Renzo 2009). However, it is important that the matching process is aligned with the overall objectives of the programme, meaning that if career advancement is the primary objective, a mentee should be matched with an influential and highly ranked mentor, while if the objective is personal development, a mentor with a high degree of availability may be preferable (Ibarra et al., 2010). Furthermore, the interests of both the mentor and the mentee should be taken into account and matched in an appropriate fashion and the skills and goals of both individuals as well as their professional backgrounds should be considered. Central matching can also be conducted according to the gender of the participants – a goal is often to mix male mentors who are more strongly represented in higher level positions with female mentees, so that these can gain access to the male dominated business networks of their mentors (Dinolfo, Nugent, 2010). However, care has to be taken with this approach since studies have shown that gender differences influence the trust building in mentoring relationships, which is essential to their success. Men often have problems to share information with emotive women (Leck, Orser, 2013).

Very few studies exist on how many mentoring programmes for women are offered and conducted in Germany. A study by the CERF Institute in 2009 estimated that around one-third of all companies promoted female employees specifically through mentoring. However, Edelkraut (2011) presumed that far more companies offer mentoring programmes to their female employees and that additionally many women engage in mentoring relationships of their own accord on an informal basis. The aim of this paper is to close the gap and to

- a) see if women chose mentoring programs of their own account and
- b) provide some insight on the implementation of mentoring programmes for women of tutoring programs for women in German companies.

## **METHODOLOGY AND RESULTS:**

A quantitative online survey with 24 questions was conducted online between April 22 and June 16 2013. The survey was distributed virally in German women's career networks and via Social Media (career networks Xing and LinkedIn; no predefined sample size; pre-test for reliability, validity and responsiveness conducted with sample of 10). The aim of the survey was to investigate the effectiveness of women's mentoring programmes in German companies, by analysing first the



objectives and the process, then the various frameworks and finally the personally experienced success factors of mentoring, from both mentees' and mentors' points of view (incl. automatic redirection to relevant follow-up questions depending on previous answers of participants). In total, 92 female employees, who were active in various areas of business, most notably in the automobile industry, in the finance sector and in the consulting business participated in the study. Of the 89 employees who indicated the size of their company, 70.8% were employed in large enterprises with more than 1,000 employees, 11.2% in medium sized companies with 101-1,000 employees, and 9% in small companies (11-100 employees).

68.5% of the participants had already experienced a mentoring relationship. Of the employees with mentoring experience, 38.1% had acted as a mentor and 61.9% as a mentee. Among the employees with experience in mentoring, 86.8% of the mentees and 91.7% of the mentors stated that they would generally engage in a mentoring partnership again, and 97.4% of the previous mentees could imagine a future role as a mentor. The latter indicates a growing number of potential mentors. 86.2% of those employees without mentoring experience stated that they could certainly imagine participating in a programme in the future, while 13.8% indicated that this could be a possibility.

Most programmes are not organised, nor documented in a strict fashion as described in the literature, but rather as a combination of several organisational frameworks. An overview of the organisational frameworks of the mentoring programmes is illustrated in Figure 1.

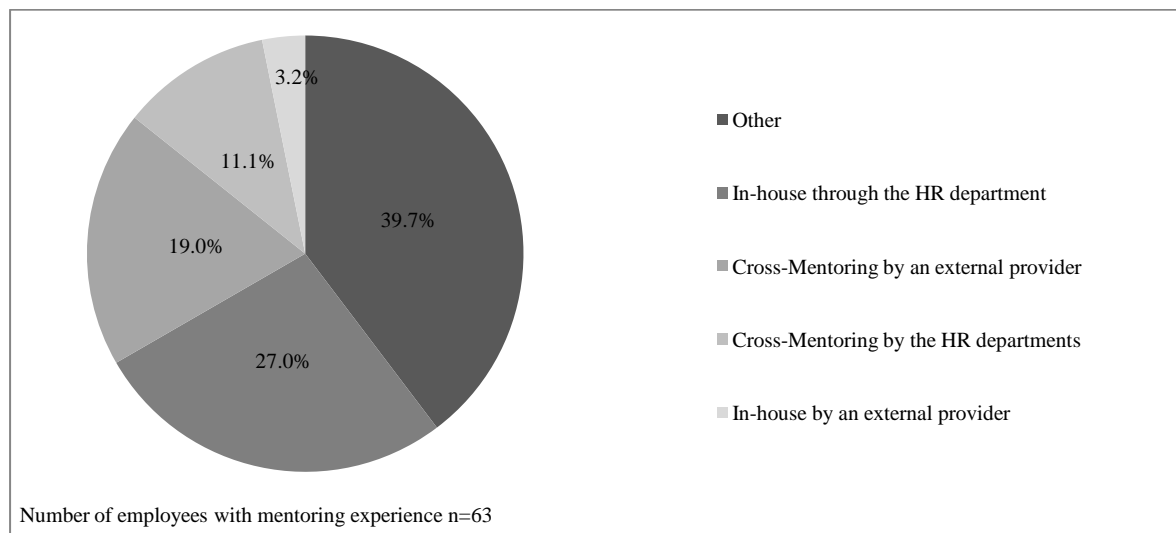


Figure 1: Organisational framework of mentoring programmes

Source: based on the results of own questionnaire.

The findings concerning the organisational framework indicate that there are in fact many possible responsible entities concerned with the organisation of mentoring programmes. The HR departments are not the main coordinators even if they still play an important role. Other responsible parties include equal opportunity commissioners or external mentoring programmes. Mentoring in practice is

in fact not an entirely HR-related instrument for the promotion of women in business, but rather an accompanying cooperative tool as an interface with other entities. Additionally, showing the high rate of “other” is an indicator that many women engage in mentoring on their own account without necessarily relying on formally organized events.

Many participants in the survey indicated that they were matched with their partners centrally by the coordinators of their mentoring programmes. The process was mostly based on compatible professional criteria, motivations and preferences, as well as on personality traits and skills. On the other hand, 33.3% of both the mentees and mentors in the survey could were free to conduct the matching process individually without intervention by the coordinators. For the mentees, the choice of their mentor depended on very different aspects, but the most frequently mentioned were the experience and high position, as well as a good personal relationship and the compatibility of the personal and professional goals. 43.2% chose a female and 53.8% a male mentor, which indicates that cross-gender mentoring relationships are indeed slightly more popular than single-gender mentoring relationships. However, one has to take care with the interpretation of this fact. An exploratory study showed that when describing an ideal mentor, women were more likely to opt for a woman instead of a man (Bailey et al., 2016). The preference observed here, could result from the observation that there are fewer women further up the hierarchy so the participants could not imagine benefiting from a mentoring relationship with a woman. When choosing their mentee, the mentors emphasised, among other criteria, common interests and goals as well as the impression of the mentees being highly skilled and motivated.

Overall, the matching process in German companies, when conducted centrally by the coordinators, seems to be comparable to the theory. Many match the participants according to their objectives and wishes, and take different aspects and criteria into account, a fact which is essential for the success of the mentoring relationship. Nevertheless, several mentees in the survey noted that they had a mentor who did not have similar goals or working styles to their own and could therefore not promote and support them adequately, but was more intent on passing on personal knowledge which was not really relevant to the mentees. This could indicate that the criteria for matching the mentors and the aspects taken into account are not always considered carefully enough. Newer literature suggests that matching should occur on the two specific personality traits openness to experience and conscientiousness in order to increase success (Menges, 2016). Even though the literature suggests a centrally organised matching process, many participants were able to choose their partners independently, and both the mentees and mentors chose their partners following compatible criteria. Although it could be assumed that the success rate for individually matched partnerships would be higher, as both participants have direct influence on the constellation and are free to choose the

mentor whom they deem the most suitable, the results of the survey show no connection between the matching process and the success rate.

Figure 2 summarizes the most frequent form of preparation of the mentors through the coordinators, with 25% of them not being prepared at all.

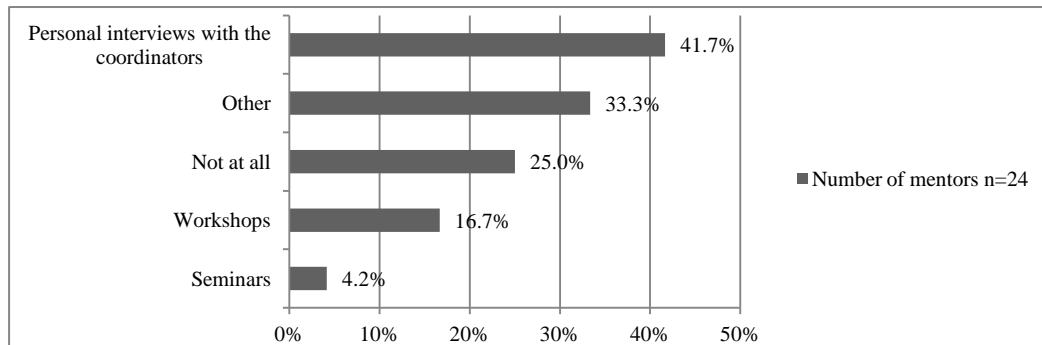


Figure 2: Methods for the preparation as indicated by the mentors

Source: based on the results of own questionnaire.

Some of the mentees indicated that they too were not sufficiently prepared and would have appreciated some form of guidance before the beginning of the programme. Also, the lack of preparation of the personal mentor was mentioned, as well as the fact that he/she was not clear about what was expected of the programme itself and of the mentee.

It can be assumed that there is a lack of information between the coordinators and the participants. Mentors and mentees should be informed more clearly that preparing the mentoring relationship is their responsibility, as is indicated in the literature.

Figure3 gives an overview of the frequency of the meetings between both mentees and mentors and their respective partners.

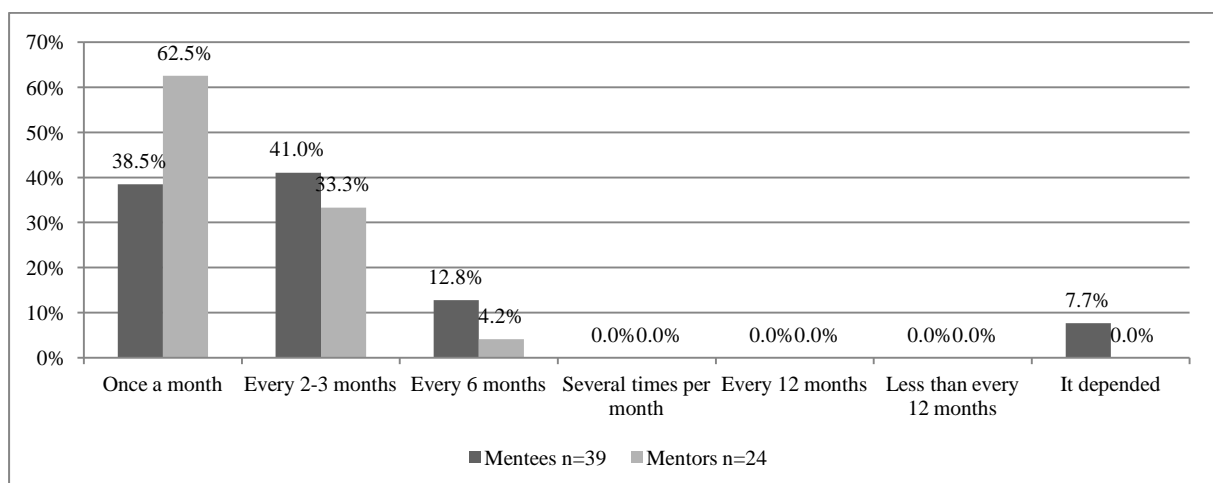


Figure 3: Frequency of mentoring meetings of mentees and mentors

Source: based on the results of own questionnaire.

In general, most pairs met either monthly or bimonthly. Benchmarking suggests that meeting should take place every 3 – 7 weeks in order to achieve a total of approx. 10 meetings per year (Poulsen, 2013). Here, German companies still have potential to improve the mentoring relationships.

As Figure 4 shows, the advantages most frequently experienced by the mentees in the survey were the chance for the reflection on, and solution of, current job-related challenges and the planning of future career development.

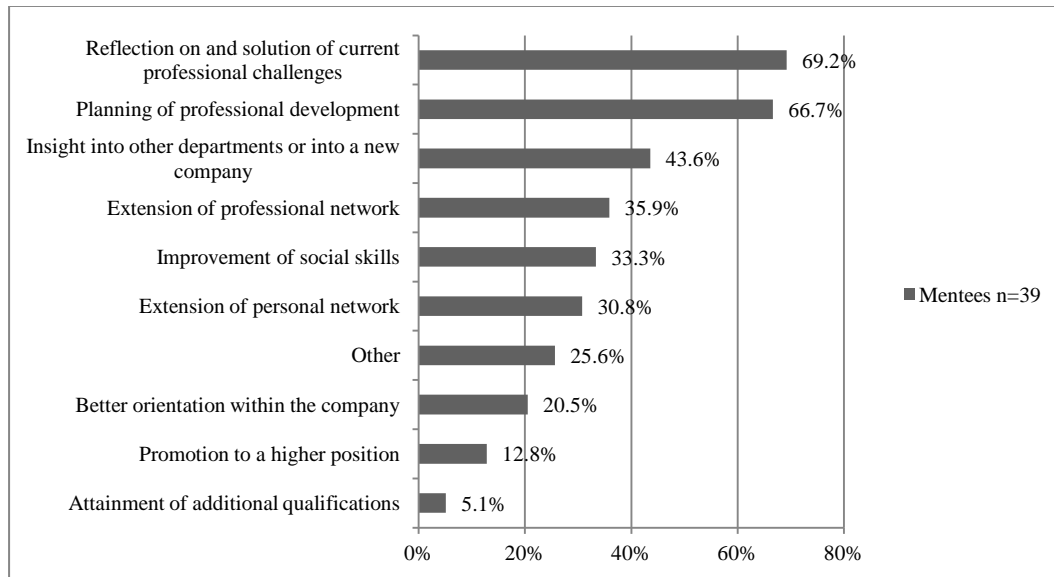


Figure 4: Advantages of mentoring relationships experienced by mentees

Source: based on the results of own questionnaire.

When comparing these advantages with the objectives of the mentoring relationship, it is clear that they do not always fully coincide.

The most important advantages for the mentors in the survey are summarised in Figure 5.

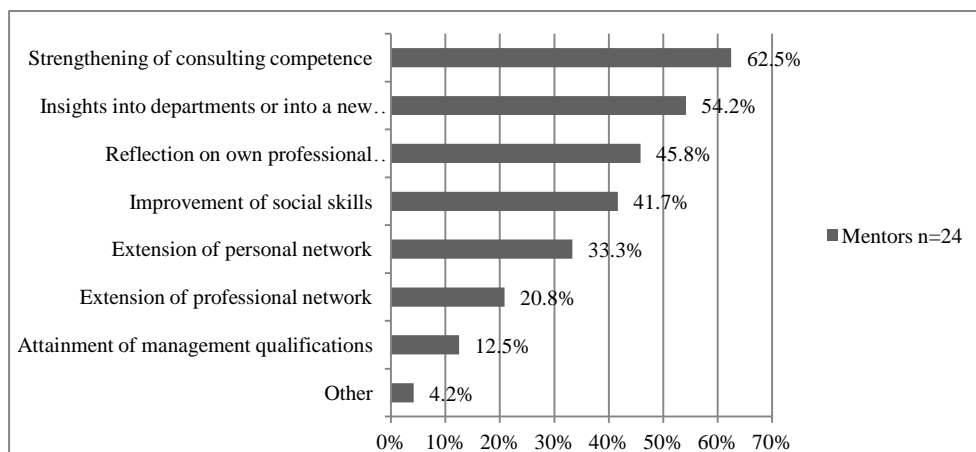


Figure 5: Advantages of mentoring relationships experienced by mentors

Source: Own illustration based on the results of own questionnaire.

In contrast to the literature, the mentors mentioned several negative aspects related to mentoring relationships, especially high investment of time. Possible solutions could be blended mentoring or even virtual or online based mentoring, both of which allow mentor and mentee to conduct meetings without having to leave their workplace too often.

Overall, the mentoring programmes for women in German companies were evaluated very positively, as Figure 6 shows.

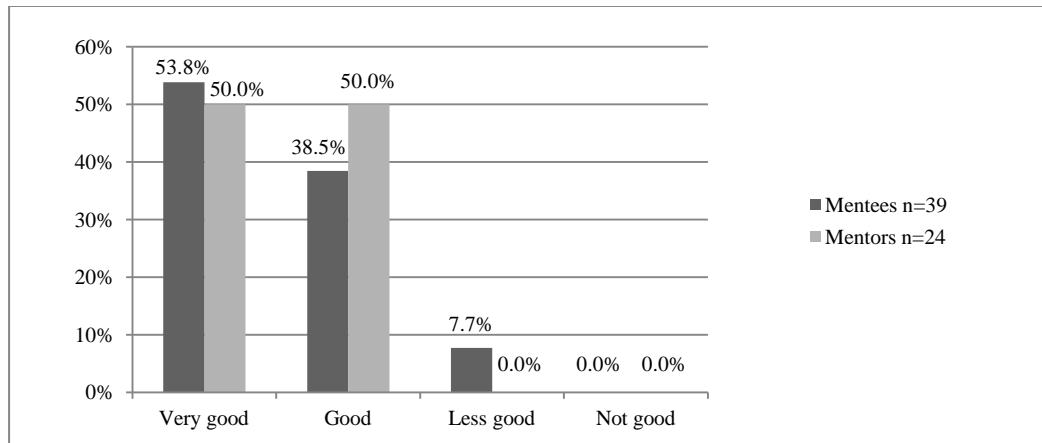


Figure 6: Overall evaluations of the mentoring relationships by mentees and mentors

Source: based on the results of own questionnaire.

## CONCLUSION:

Formal programmes improve the success rate of mentoring relationships for female mentees, as long as the matching process is conducted centrally and carefully. Before the first meeting, the mentor should be clear about what timeframe would be possible, how many meetings could take place and what he/she would like to communicate to the mentee. At the same time, the mentee should prepare him-/herself by making clear what his/her objectives and the long-term goals are and what possible steps need to be taken and what challenges must be overcome on the way there. Finally, it should be clarified what is expected of the mentor. It should be decided how often meetings are to be conducted, where they should take place, what they should include and how they are to be designed, what should – or what should not – be discussed, and when the relationship is to be terminated. This could for example be recorded in an agreement between the two participants. As the comparison of theory and practice shows, the frequency of meetings in German companies is mostly longer than the literature recommends. Moreover companies may be advised to conduct their programmes over at least twelve months, in order to improve their success. Due to the small sample size in this study (24 mentors and 39 mentees), the results can only be seen as an indication. Additionally, it might be useful to obtain information from companies in order to find out, how they benefit from mentoring.

Therefore further work will include an investigation with German companies regarding their experience with mentoring.

## RECOMMENDATIONS FOR COMPANIES:

The coordinators' challenge lies in guaranteeing a better selection and matching of the mentoring partners and in better communicating the programmes and related measures throughout the company. This would ensure that the overall goals of the programme, as well as the relation to and importance of the mixed management strategy are clear to all staff members. It should be clearly stated to the employees that the objectives should not be seen as a necessarily attainable goal, but rather as a starting point from which the mentees can pursue these goals by themselves at a later stage, unless the mentoring programme includes elements of sponsorship, in which case a promotion to a higher level position can be expected as a result. Networking, though theoretically described as one of the main objectives of mentoring, is only seen as a minor objective by the participants.

Even though mentoring programmes are generally considered successful in German companies and are evaluated very positively by the participants, there are still some areas for improvement like better preparation through guidelines, seminars and workshops before the beginning of the programme, better selection of the mentors and improved matching process and more support by the coordinators. From the mentors' side one suggestion was to include the direct supervisors more actively, so as to increase the degree of acceptance of the programme within the company. Combined with the desire of female employees to be involved in mentoring in future and the already increasing number of female managers who can act as role models, mentoring programmes in Germany can remain a sustainable instrument for the promotion of women in business, even if it is no longer a pure HR instrument.

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## THE RATE OF SAVINGS AND DEBT THE HOUSEHOLD LEVEL AS A FACTOR IN THE CLASSIFICATION OF EU COUNTRIES

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### ABSTRACT

The aim of this study was to examine the level of variables, such as the savings rate, the ratio of gross debt to household income and adjusted gross disposable income of households per capita in spatial terms (EU) in 2010 and 2014, using methods of multivariate statistical analysis. The concept of the saving is one of the basic economic concepts. It is a very important process from the point of view of the economy, businesses and households. Household savings are an important element of national savings. This means they can function properly, both the market and the households themselves. In the understanding of the issues may be helpful economic theories to comment on the accumulation and consumption, which his party recognize the consumer. The entity that has a consumption at any given time (reserving some savings for the future) to as much as possible to increase the utility function. The purpose of this article is the classification of some European Union countries with the following variables: the savings rate, the ratio of gross debt to household income and adjusted gross disposable income of households per capita. The time range adopted for the analysis of the years of 2010 and 2014. Source of data were the Eurostat database.

**Keywords:** *saving rate, household debt, household income*

### INTRODUCTION

On the issue of saving they are related to theories that have their origin in the 30s of the twentieth century. The first one by I. Fisher, was based on the assumption that household savings are purposeful. Fisher also argued that consumption is not characterized by proportionality in relation to income and the fact that current income does not explain the savings rate. According to the theory was

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J.M. Keynes tendency to consume from current income are almost unchanged. As a rule, often conserved is the difference between income and expenditure in order to maintain a particular standard of living. In this case, it can be concluded that increasing the proportion of income should have the effect of savings (Białowas, 2013).

Factors detailed in the literature are classified in different ways, eg. They are divided into subjective and objective, internal and external, related to the macro-environment and micro-environment and related to individual decisions by collecting cash resources.

According to Milton Friedman on the level achieved by the households savings may be affected by two groups of factors: objective reasons which relate to economic conditions influencing the income derived and group factors on preferences, needs, rules and rules of revenue sharing (Rószkiewicz, 2008). As the basic motives of saving are distinguished: caution, caution, the benefits of consumption, speculation, entrepreneurship, the need for independence, avarice and desire to leave after a fall. For these reasons often include a tendency to accumulate wealth. The authors of this extension were Lusardi and Browning. According to them, the economists was created list, which restricts the set of possible motives consumers to save, where a large part of them have already been used in the creation of contemporary models of saving (Białowas, 2013).

Every household deciding to postpone part of their income directed to other conditions. For surely part of it may be a desire to protect their future or the future of the family, or place in front of the specific purpose for which you want to save. Income inequality effects on the households and socio-economic groups hierarchy are present in every developed market economy. While considering these issues in the light of the integrated development concept it must be emphasized, however, that the scale of income disparities within developed countries can have diverse effects on the severity of other social problems, which may be a barrier to the processes of modernization and achieving economic and social cohesion (Leszczyńska, 2015)

A. Lindqvist based on the division of J.M. Keynes distinguished in saving basic level concerning the disposal of cash, which aims to safeguard the possibility of the current expenditure management of the household. In the next stage, after obtaining a satisfactory level of liquidity, there is a thread about protection against unplanned events. Another motive is or buying expensive goods and services. In turn, the highest level in the classification of motives is wealth management. Due to the broad meaning property management, even it was necessary to create a division having the most important theories of saving. Considering the wealth management lists: duplication of assets, protection of pensions and leaving behind a legacy.

## PURPOSE AND TEST METHOD

The purpose of this article is the classification of some European Union countries with the following variables: the savings rate, the ratio of gross debt to household income and adjusted gross disposable income of households per capita. The study adopted the factors affecting decisions on making choices between consumption and saving.

The main factor affecting both the level of consumer spending and the level of savings is income. It is, therefore an additional factor affecting consumption, which can be omitted in favor of saving. Statistical analysis of the diversity of the variables studied was carried out in terms of single and multi-dimensional. Have also been used measures the Mahalanobis immersion observation of the sample (Donoho, Gasko, 1992, Rousseeuw, Ruts, 1996).

The values are measures dipping to between 0 and 1. Member States, which correspond to higher values of this measure, are located more centrally in the test data set. It can be assumed that analyzed the characteristics adopt in these countries the typical values. A measure of dipping observations in the sample allows the determination of similar countries because of the numerical values of the variables examined in the studied years.

## ANALYSIS OF DIFFERENTIATION STATES

The level of household savings is primarily measured savings rate, which expresses the percentage of savings in disposable income of households (Figures 1 and 2).

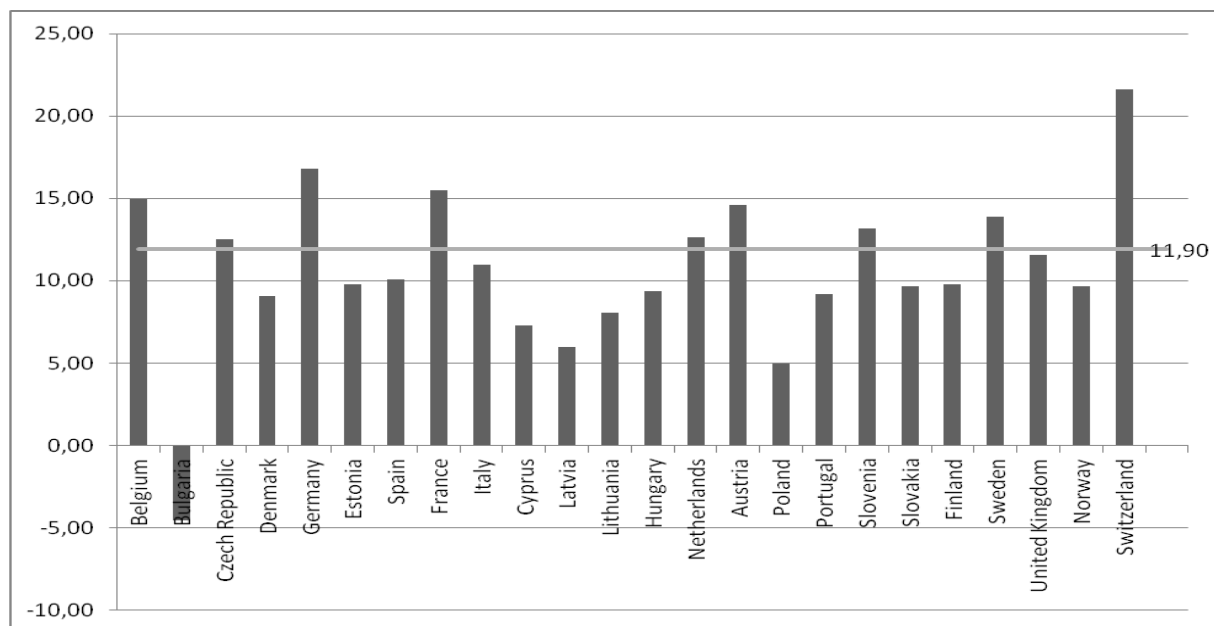


Figure 1. Interest savings of households selected EU countries in 2010

Source: own study based on [www.eurostat.com](http://www.eurostat.com)

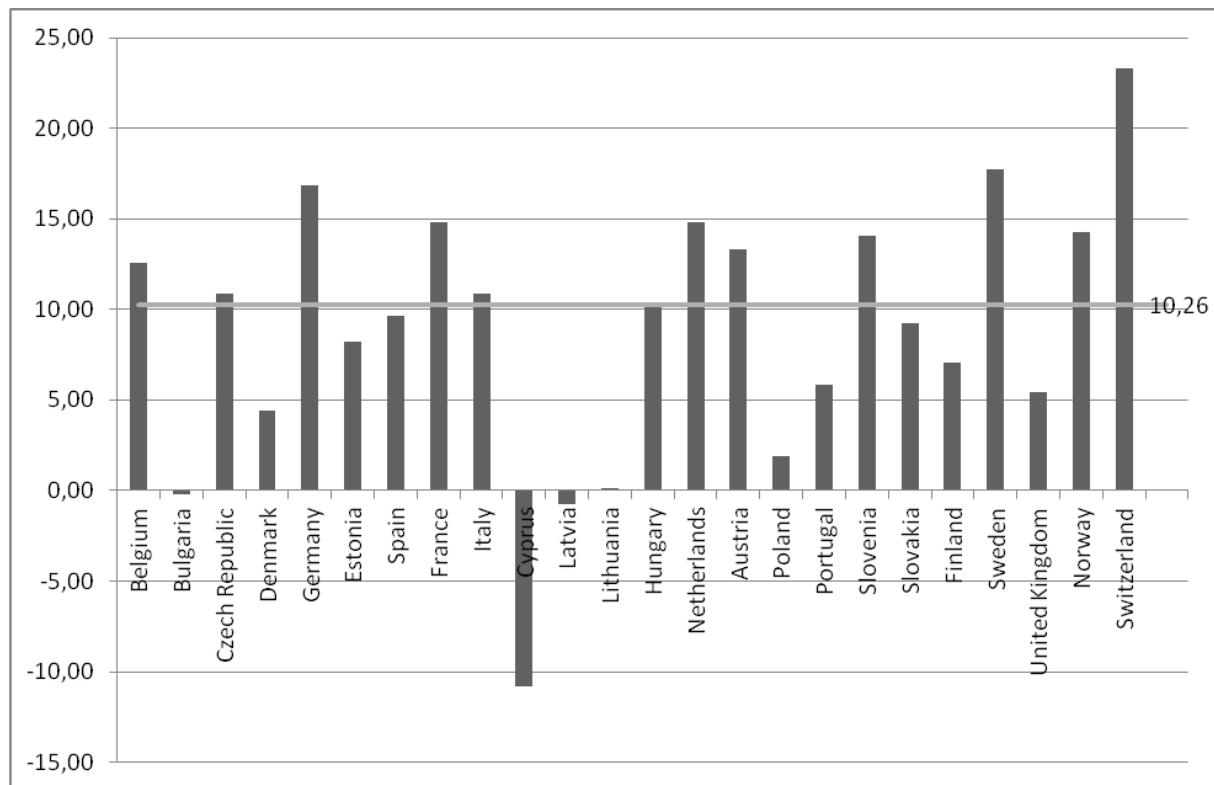


Figure 2. Interest savings of households selected EU countries in 2014

Source: own study based on [www.eurostat.com](http://www.eurostat.com)

Average savings rate (Fig. 1 and 2) selected for the analysis years (2010 and 2014) for all the EU countries decreased by 1.64 p.p. The biggest change can be seen in the case of Cyprus. In the year 2014 compared to those of 2010, there was a significant drop in the savings rate of the country. In countries such as Switzerland, Germany, Sweden recorded the highest saving rates in both 2010 and 2014.

The analysis of correlation of the analyzed *ziennych* is statistically significant for the level of significance of  $p < 0.05$  (Table 1).

Variable	Specification				
	Average	std	savings rate	Gross debt-to-income ratio of households	Real adjusted gross disposable income of households per capita
2010					
savings rate	10,69	4,905	1	0,226279	0,734365
Gross debt-to-income ratio of households	106,14	60,983	0,226279	1	0,569054
Real adjusted gross disposable income of households per capita	18104,67	5331,165	0,734365	0,569054	1
2014					
savings rate	8,91	7,383	1	0,077338	0,656209
Gross debt-to-income ratio of households	104,56	63,449	0,077338	1	0,538949
Real adjusted gross disposable income of households per capita	19398,42	5505,035	0,656209	0,538949	1

Table 1. Correlations of the analyzed variables. Source: own - statistica 12.5

The lowest coefficient of Pearson correlation occurred between the savings rate and the ratio of debt to income ( $r = 0.22$  in 2010 and  $r = 0.07$  in 2014). The values of the remaining correlation coefficients ranged from 0.569 to 0.734. This indicates a linear correlation between the two traits. The relationship between the variables presented in figure 3 and 4.

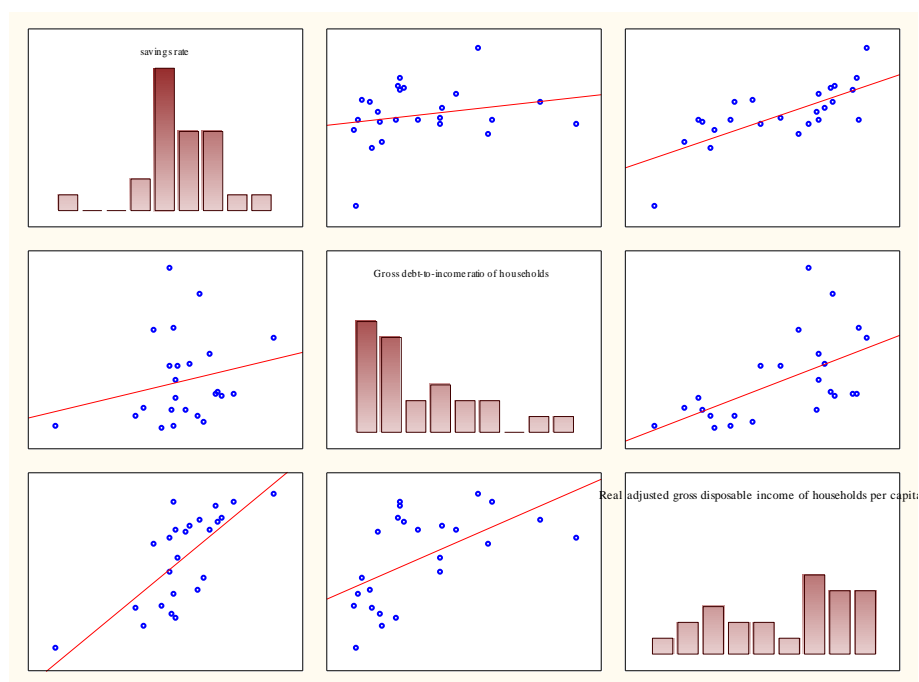


Figure 3. Correlations between those variables for analysis in 2010. Source: own - statistica 12.5

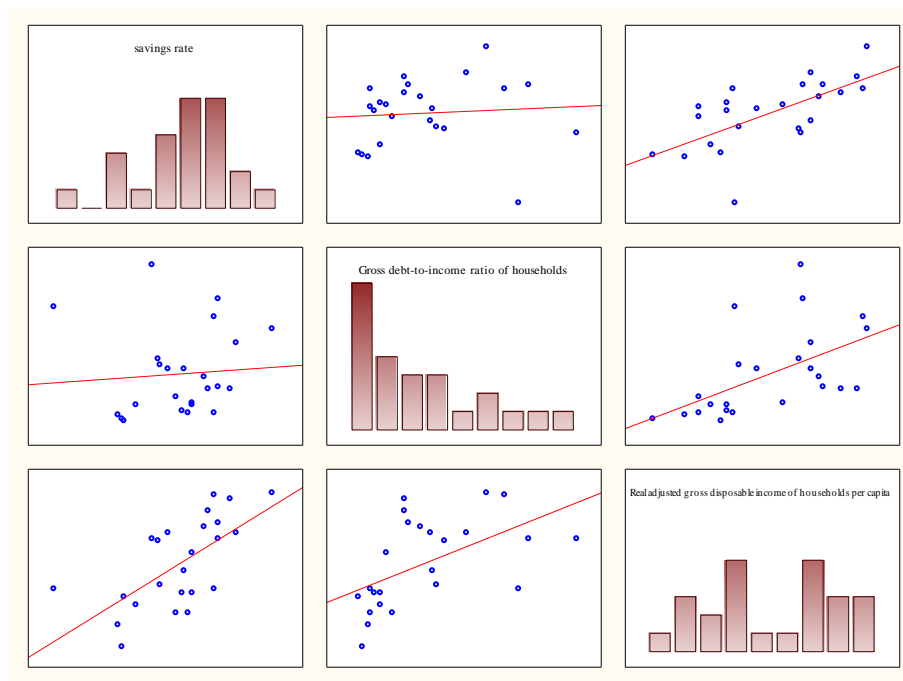


Figure 4. Correlations between adopted for analysis variables in 2014

Source: own - statistica 12.5

To analyze the spatial diversity of the variables investigated classical statistical measures were used (Tab. 2).

specification	Year	Average	Standard	Variance
savings rate	2010	10,6892	4,90542	24,063
	2014	8,9063	7,38287	54,507
Gross debt-to-income ratio of households	2010	106,14	60,98301	3718,928
	2014	104,56	63,44896	4025,771
Real adjusted gross disposable income of	2010	18104,7	5331,165	28421316,8
	2014	19398,4	5505,035	30305407,3

Table 2. Results of analysis of variance discriminatory variables in 2010 and 2014

Źródło: opracowanie własne – statistica 12.5

In order to obtain a response, in which Member analyzed traits take typical values are calculated measurement dip Mahalanobis (Table. 3). Measures dipping allowed to classify selected EU countries Europejskij due to the corresponding value of this measure. For the purpose of analysis were defined three classes of measures are summarized dipping and you elect belonging to each class in the marketing years (Table. 3).

państwo	2010		2014		
	miara	Klaster	państwo	miara	
Denmark	0,235926	A <0;0,237)	Cyprus	0,235461	A <0;0,237)
Switzerland	0,256344		Denmark	0,268439	B <0,237;0,475)
Spain	0,291379		Netherlands	0,301411	
Sweden	0,323518		Switzerland	0,317991	
Portugal	0,331045		Germany	0,336079	
Bulgaria	0,341286		Bulgaria	0,344414	
Germany	0,368637		Austria	0,352352	
Hungary	0,371447		Lithuania	0,358889	
Finland	0,372451		Hungary	0,371802	
Estonia	0,384593		Norway	0,37912	
Latvia	0,387259		Latvia	0,387991	
Norway	0,388783		Slovenia	0,390147	
Netherlands	0,394762		Estonia	0,39437	
Czech Republic	0,418472		Sweden	0,397597	
Belgium	0,422974		Finland	0,420324	
Lithuania	0,423796		France	0,438839	
France	0,434696		United Kingdom	0,447884	
Slovenia	0,450347		Czech Republic	0,457241	
Cyprus	0,463644		Poland	0,464455	
Poland	0,471765		Belgium	0,475845	C <0,474;0,7124>
Italy	0,536819	C <0,474; 0,7124)	Slovakia	0,500719	
Slovakia	0,551617		Italy	0,503966	
United Kingdom	0,586634		Portugal	0,574324	
Austria	0,712411		Spain	0,638845	

Table 3. Measures dipping Mahalanobis data features

Źródło: opracowanie własne

Measures dipping to Cyprus in 2010 reached the lowest values. In 2010 in Italy, Slovakia, the UK and Austria recorded the highest level of immersion measures. These countries can be considered as outliers due to the highest values of variables. The highest values of measurement dipping in 2014 correspond to Belgium, Slovakia, Italy, Portugal and Spain. It can be assumed that the characteristics adopted for the analysis of achieving them, the most typical values.

Countries belonging to the same classes can be regarded as similar because of the numerical values of the analyzed variables. Most countries belong to the cluster B.

Reflag selected for the analysis of European Union countries because of the measure of immersion stem from a decline or growth characteristics. Graphically illustrated in Chart 3.

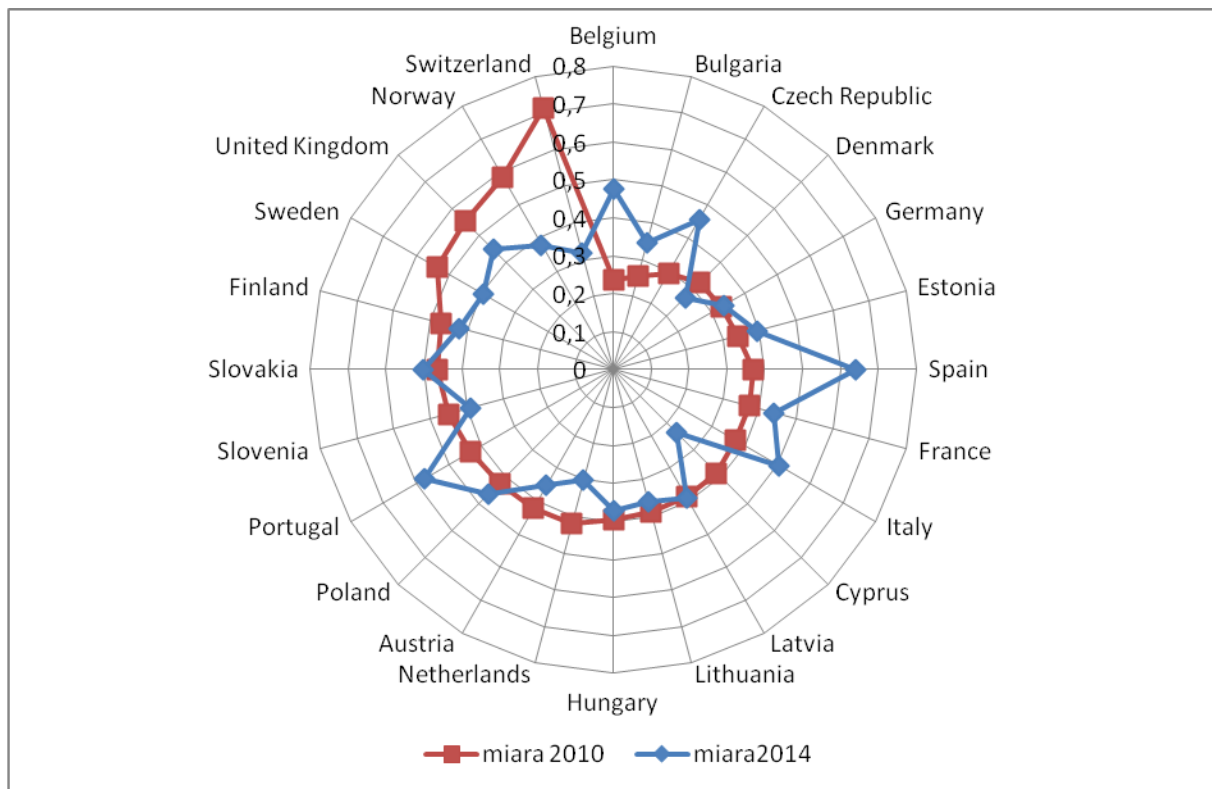


Figure5. Measures immersion in the years 2010 and 2014

Source: calculated own

## SUMMARY

One factor stratification and differentiation of society is the income inequality. The level of income is a determinant of inequalities that are inevitable and even to a certain extent necessary - represent, as part of incentive mechanisms in consumer behavior. The income situation of households directly determines the level of savings and debt (Sikora, 2012).

Calculated values of the metrics dipping allowed to organize the country due to the level of the analyzed characteristics. This enabled the separation of clusters, with a similar economic situation of households in 2010 and 2014. Some countries have changed affiliation to the cluster in 2014 in relation to 2010. Cyprus changed its affiliation with cluster B in 2010, the cluster A in 2014. Thus, you can specify Cyprus, as the state's most unusual because of adopted to analyze the characteristics of.

We conclude that in terms of the level of savings rate, the ratio of gross debt to household income and adjusted gross disposable income of households per capita are the state, between which there is too much disparity, as well as outliers. The phenomenon of such stratification is typical of developed countries economically.

The results indicate the need for further research to define the factors determining the choice of financial instruments for private savings by households, in particular the level of households' knowledge about the functioning of the financial market and their attitudes and preferences to risk-taking.

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## THE SOLIDARITY MODEL OF THIRD COUNTRY NATIONALS' FOREIGN PRODUCT PURCHASE

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### ABSTRACT

This research aims to examine the underlying motivations which lead third country nationals to boycott a product country of origin engaged in politically offensive actions against a country or nation other than their own.

Data were collected by conducting 20 in-depth interviews with respondents coming from countries other than the countries involved in the animosity case. Qualitative grounded theory has been employed to analyse data in order to establish the model.

The findings reveal that third country nationals' decision to participate in the boycott against the offending COO is influenced by five variables: 1) awareness of the offending COO's actions; 2) Egregiousness of the COO's actions towards the offended nation; 3) the offended nation's actions towards the offending COO; 4) contemporariness of the COO's egregious actions, and 5) consumer values.

This study is a first attempt to examine third country nationals' participation in a boycott based on an international animosity case outside their countries. It can potentially help international marketers in understanding the motivations of these consumers in order to set effective marketing strategies to target them as consumers.

**Keywords** animosity, consumer boycott, country of origin, grounded theory, solidarity.

### PROBLEM AND PURPOSE

Consumer animosity has been widely studied by marketing researchers as it has been found that it can influence consumer's willingness to buy (WTB) products from a hostile nation independently of product judgement (Klein et al, 1998). The consumer may refuse to buy a product of a particular brand even if it is perceived as high-quality due to antipathy towards its country of origin (COO). The various animosity studies reviewed in the literature focused on the relation between the consumer and the hostile COO, with the attention given to distinguish animosity from ethnocentrism (Klein et al, 1998).

Participation of third country nationals (TCNs) in the boycott against the offending COO involved in an animosity case appeared to be absent from the literature. The term TCNs refers to citizens who

do not belong to the offending country/nation nor the offended country/nation involved in the conflict. It has been speculated that TCNs do not have feelings of animosity towards the offending COO as they are not affected by the COO's offenses (Jung et al, 2002). This is relevant to a number of animosity cases in the world such as the Middle-East conflict between Israel and its neighbouring Arab states (Karkar, 2010) and the conflict between China and Tibet in East Asia (Australia Tibet Council, n.d.; International Campaign for Tibet, 2015) which are attracting the attention of people from different nationalities around the world.

Consumer animosity can be split into two categories: national animosity and personal animosity (Jung et al, 2002). National animosity refers to "individual's resentment of how his/her country has suffered because of the actions of another country", while personal animosity refers to "individual's resentment towards another country because of negative personal experiences s/he has with the foreign country or with people from that country" (Jung et al, 2002, p.8).

Based on this categorisation of animosity, TCNs would not have animosity towards the COO involved in these offensive actions as they are not affected at the personal or national level by these actions; yet, they are showing concern about the conflict through their participation in the boycott against the offending country. Such a phenomenon raises a number of questions: why are these TCNs involved in these political issues through their participation in the boycott against the offending COO while they presumably do not have animosity sentiments towards it? And why do they put more emphasis on a particular animosity case among others if their involvement is limited to one case?

As TCNs' involvement in the animosity case is manifest in their participation in the boycott against Israel, the literature on consumer boycotts was consulted. Studies including Garret (1987) and Klein et al (2004) have compiled a number of variables which may influence consumer participation in boycotts; however, these studies were generally conducted at the micro-company level rather than at the macro-product's COO level. Additionally, these studies do not clearly address why consumers would put more emphasis on a particular boycott case among others outside their national borders in the context of animosity between countries and nations.

This study aims to explore this untapped phenomenon. It investigates why TCNs participate in a boycott against the offending product COO involved in actual and contemporary NationA-NationB animosity case, where NationA is the perceived offending nation and NationB is the offended nation (the animosity case will not be revealed in this study) which is apparently irrelevant to them, and why they give greater emphasis to this conflict among others in the world. In order to examine these objectives, the literature on country image and animosity will be reviewed.

## COUNTRY IMAGE EFFECT

Country image “is defined as attitudes that consumers hold towards a particular country” (Maher and Mady, 2010, p.632). According to Roth and Diamantopoulos (2009), country image can be split into two components: cognition and affect. The cognitive component refers to such variables as the product COO’s economic development level, its degree of industrialisation (Roth and Diamantopoulos, 2009), and competence of its people (Maher and Mady (2010). It is cited in Al-Sulaiti and Baker (1998) that consumers can be bias against products from less developed nations as their products’ quality may be perceived as inferior to those coming from developed countries.

The affective component refers to the emotional reactions a consumer has towards the COO (Roth and Diamantopoulos, 2009). Consumers may recognise the high quality of products made in a particular country; however, they may have negative attitude towards this country’s products due to the negative emotions associated with it. Of particular interest to this research is consumer animosity as an affective dimension, which may similarly affect consumer WTB regardless of product judgement (Klein et al, 1998). Among the two, it is the cognitive, rather than the affective, component which has received much attention in the literature (Maher and Mady, 2010). This research will focus on the affective component through its animosity dimension.

## ANIMOSITY CONSTRUCT

Animosity has been investigated in a number of empirical studies, beginning with Klein et al’s (1998) in the context of the Nanjing massacre by the Japanese against the Chinese in 1937. The authors proposed that animosity towards a country can affect consumer purchase decision regardless of product judgment. However, recent studies such as Tian and Pasadeos (2012) and Shoham et al (2016) found that consumer animosity can influence product quality judgment negatively.

Subsequent studies either tested Klein et al’s (1998) model in different contexts, such as Klein et al (2002) and Nijssen and Douglas (2004), or refined its conceptualisation (Riefler and Diamantopoulos, 2007) such as Jung et al (2002), Leong et al (2008), and Harmeling et al (2015). Considering the aims of this research, these studies examined the effects of animosity on local citizens of the countries affected by another country’s aggression without examining TCNs’ reaction to animosity cases under investigation. Jung et al. (2002) proposed that animosity can be split into national animosity and personal animosity, identified as animosity’s locus of animosity. National animosity refers hostile sentiments perceived by citizens toward an aggressive country when its actions are affecting their country at the macro level. This is applicable to animosity felt by some East Asian countries towards Japan and the US during the East Asian economic crisis in 1997 (Leong et al, 2008). Personal animosity refers to hostile feeling towards the COO when it is directly offending the individual as it was the case

for the Chinese who suffered from or were killed by the Japanese occupation in the 1930s and 1940s (Klein et al, 1998).

Another conceptualisation of animosity, according to Jung et al (2002), is related to sources of manifestation, which distinguishes situational animosity from stable animosity. Situational animosity refers to temporary animosity arising from a specific provocation (Jung et al., 2002) which decreases over time when the provocation stops, as it was the case for Australian consumers towards France during the French nuclear testings in the Pacific Ocean in the 1990s (Ettenson and Klein's, 2005; Riefler and Diamantopoulos, 2007). Animosity soared in the year when the testings took place, then faded away afterwards when the testings stopped (Riefler and Diamantopoulos, 2007) in the following year.

Stable animosity, on the other hand, refers to enduring "long lasting and deep rooted" animosity (Leong et al., 2008, p.998) as a result of cumulative provocations over time (Jung et al., 2002). This may be applicable to Chinese citizens who still harbour animosity towards Japan as a result of the Japanese invasion of China during World War II and the associated Nanjing massacre (Klein et al., 1998).

## RESEARCH METHODOLOGY

Qualitative-interpretive research methodology has been used for this research for a number of reasons. Firstly, the aim of this research is to find out why TCNs would be involved in a particular animosity case outside their national borders, and how such involvement affects their purchase decision from the country being aggressive towards another. Qualitative-interpretive research methodology is more appropriate for answering "why" and "how" questions, according to Carson et al, 2001. Secondly, the topic is novel in the literature which demands qualitative approaches in order to explore such understudied area (Carson, et al, 2001). Hence, this research works on building theory rather than testing existing theories for answering its questions. This is achieved through in-depth interviews in order to gain insight into respondents' experiences about an actual boycott case against a product's COO. This has the advantage of capturing real-time reactions (Klein et al, 2004) in their natural settings.

### *Sampling*

Purposeful/theoretical sampling was used to select respondents for this study. The choice of respondents was dependent on the concepts (themes) (Strauss and Corbin, 1998) which emerged from previous interviews.

20 respondents participated who are not citizens of any of the two conflicting parties of the animosity case under investigation. They come from different nationalities. Out of the 20 respondents interviewed, 12 were males. 15 of the respondents participate in the boycott who are political activists

affiliated with political organisations calling. Non-participants in the boycott are recruited in order to examine the factors which distinguish those who do participate in the boycott from those who do not. The age of respondents ranged from 20 to 60. Telephone, face-to-face, and online-chat interviews were conducted in English in Melbourne Australia in 2015. Each interview took 30 to 60 minutes.

#### *Interview Guide Design*

The interview guide was semi-structured. The funnelling technique (Minichiello et al., 2003) was used, beginning with broad open-ended questions then narrowing down. Respondents were given the opportunity to freely express their feelings and share their experiences about the topic in their own words, followed by more specific questions. The recursive model of questioning was used in which previous conversation influences the structure and content of what would be asked next (Minichiello et al., 2003). Additionally, a priori themes from previous animosity studies were also used, particularly to check whether TCNs harbour animosity towards the offending COO.

#### *Data Analysis*

Grounded theory methodology was employed in this study in order to generate theory about WTB from offending POs grounded in the collected data (Strauss and Corbin, 1998). This was achieved by extracting themes which were identified through repetition of topics reported by respondents (Ryan and Bernard, 2003). Units of data were systematically compared in order to find similarities and differences between respondents' reports. Iteration was used through which preceding operations of an interview shape the subsequent ones (Spiggle, 1994). The interview guide was updated according to themes that emerged from the analysis of data collected from previous interviews.

## **FINDINGS (THEMES)**

It has been found that TCNs' participation in the boycott against the offending COO is driven by solidarity towards the targets of the offending COO rather than by animosity towards the COO. Solidarity towards the COO's targets is triggered by five variables: 1) awareness of the offending COO's actions; 2) Egregiousness of the COO's actions towards the offended nation; 3) the offended nation's actions towards the offending COO; 4) contemporariness of the COO's egregious actions, and 5) consumer values. This relation is depicted in Figure.1.

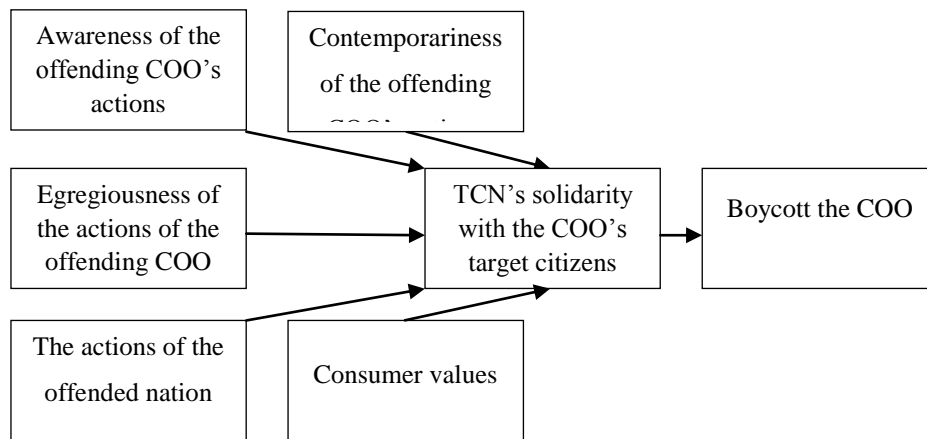


Figure 1: The solidarity model of third country nationals' foreign product purchase

These findings are based on themes which emerged from respondents' reports and further, which are discussed in the following sections.

*Theme: Awareness of the COO's actions*

Awareness of the COO's political actions is an important step towards becoming involved in the political issue. Some of the respondents who do not participate in the boycott reported that they are not fully aware of the conflict:

I always see on TV and hear about many political problems in the world but I don't get the chance to know more about them.

Participants in the boycott highlighted the amount of knowledge they have about this political issue which may explain why they give greater emphasis to NationA-NationB animosity case:

I am concerned about all humans suffering from injustice and oppression, but I have more emphasis on NationA-NationB conflict because I know more about it.

Respondents also reported various ways of gaining knowledge about the actions of the COO which played an important role in increasing their concern about the suffering of humans and in turn to become involved in this animosity case rather than others. Some respondents reported that they sympathise with their friends who come from NationB:

I generally have interest in politics...but my interest in NationA-NationB conflict particularly was further developed through my two NationB friends who kept me informed about it

Others highlighted the effect of visual media on their decision to participate in the boycott:

...I have seen [on TV] what NationA did to NationB... It was shocking. I strongly believe that something should be done in order to stop these atrocities

*Theme: Egregiousness of the COO's actions*

Participants in the boycott reported their resentment towards the COO's egregious actions against its target citizens:

I totally disagree with what NationA is doing against NationB...I feel sorry for NationA citizens.

When comparing this conflict with other conflicts in the world, respondents reported that the egregiousness of NationA's actions is greater than the egregiousness of other nations' actions:

I think supporting NationB is more urgent...thousands of people have been killed and houses have been destroyed which is not happening anywhere else at our current time as far as I know.

The crimes of NationA are not happening anywhere else in the world..., I believe

However, not all respondents had the same perception of the COO's actions as some respondents reported their resentment of what NationB citizens are doing against NationA. This suggested a new theme to emerge: the offended nation's actions towards the offending nation.

*Theme: the offended nation's actions*

Perception of the COO's (egregious) actions is dependent on the actions of its targets. When comparing this conflict with another one in the world, given the name of NationC-NationD conflict (NationC is offending NationD), some respondents reported their refusal to support NationD due to the actions of its citizens towards NationC. A respondent who does not belong to NationC or NationD reported:

NationC-NationD case is different to NationA-NationB. What NationD citizens are doing is wrong. The boycott against NationC is not justified.

This is also applicable to the conflict between NationA and NationB, as a respondent who refuses to boycott NationA reported:

I don't participate in the boycott against NationA...I stand against it...I believe that NationA has the right to defend itself against [the actions of NationB].

A non-participant in the boycott against NationA conditioned her potential participation to the actions of NationB:

Before I decide whether to boycott NationA, I would have to know why NationA is treating the citizens of NationB like that; it might be their [NationB's citizens] fault

*Theme: contemporariness of the COO's egregious actions*

Participants in the boycott explained that they give more emphasis to NationA-NationB animosity case due to its contemporariness compared to other cases such, which has no more impact on people any more:

It would be relevant if these actions were continuing until now, but that's something that had passed and has no impact on people's lives anymore, so there is nothing in that regard that would interest me or interest other activists, I guess.

*Theme: Consumer values*

When questioned about how they get affected by this issue as they do not belong to any of the nations at conflict, respondents emphasised that their participation in the boycott is for humanitarian purposes; they are not seeking any personal benefit but rather they are concerned about the welfare of those who are suffering from oppression in the world. This is evident in the following reports:

Personally I do not get affected by what's happening to NationB as I did not lose a relative or had my home destroyed, but my feelings get affected by what's happening to others regardless of who they are...

These reports indicate that participants in the boycott pursue others-oriented values which prompt them to care for the welfare of humans beyond their ethnic or national boundaries. Non-participants in the boycott, on the other hand, pursue self-orientation values which conflict with others-oriented activities in the form of boycott. This is highlighted in the following report:

I don't have much time to get involved in these activities [the boycott] as I have a lot of personal commitments...

I tell you the truth, I do not have much time to know what's happening in the world...I am always busy with my work...

*Theme: solidarity (the irrelevance of animosity)*

Participants in the boycott against NationA informed that their participation in the boycott is driven by their solidarity towards NationB rather than by animosity towards NationA. The following comments highlight this theme:

I would not say that NationA is my enemy as I am not personally affected by their actions....  
My participation in the boycott is purely for humanitarian reasons.



I would not say that I am boycotting NationA because it is my enemy, but it is rather a necessary action taken in order to show solidarity with NationB...

These reports show that TCNs' participation in the boycott is originated from their solidarity with the target citizens of the COO rather than by animosity towards the COO. The boycott is used by TCNs to exert pressure on the COO in order to stop its egregious actions against its targets.

## **THEORETICAL IMPLICATIONS**

The findings of this research have important implications on the current literature of country of origin, animosity, and consumer boycott literature. This research contributes to the country image literature by suggesting that solidarity towards the target citizens of a COO involved in an animosity case is an affective dimension of country's image (distinct from animosity) which can negatively affect TCNs' emotions towards the offending COO and play an important role in their participation in the boycott (Lindenmeier et al. 2012) against this COO. Solidarity is defined as a moral concept which denotes unity between people (Scholz, 2007). It is the act of supporting others and assisting them in overcoming a particular problem. This is driven by the assistant's concern for the assisted person (Rippe, 1998). Similarly, in the current animosity case, the TCNs believe that the target citizens of the COO are oppressed and need their help to overcome this problem. Their assistance is manifest in their participation in the boycott as a strategy to stop the COO's oppressive practices towards its targets.

Factors leading to solidarity with the target citizens of the COO are generally existent in the literature. This research conceptually extends on each one of them. 'Awareness' has been discussed in the boycott literature (e.g. Garret, 1987). The current research highlights the various methods used by participants to gain knowledge about the COO's actions such as watching it through visual media or being informed about it through a concerned friend about the conflict, which would potentially give the TCNs further momentum to refuse to buy from the offending COO.

'Egregiousness of the COO's actions towards the offended nation' is consistent with Klein et al's (2004) company's egregiousness from the boycott literature. This study extends on Klein et al' (2004) findings in two ways. Firstly, it suggests that TCNs give priority to the animosity case in which the COO's target citizens face greater egregiousness from the COO's actions when there is more than one contemporary animosity case in the world. Secondly, it proposes that perception of egregiousness of COO's actions is dependent on consumer's perception of COO's target citizens' actions factor. Consumers may not be motivated to boycott the COO if they believe that the target citizens are at fault and hence which makes them feel reluctant to support them.

Contemporariness of the COO's egregious actions somehow overlaps with Jung et al's (2002) distinction between stable animosity and situational animosity. For TCNs, they use this factor to

prioritise contemporary conflicts over those which took place in history and do not have much impact on people as before. Moreover, the reescalation of violence by the COO of the contemporary animosity case may lead to reviving or increasing solidarity with the victims and hence increase motivation to boycott the products of the COO.

Participants in the boycott who show solidarity towards the offended nation are others-oriented who value the welfare of others. This suggests that they pursue helping values, according to Rokeach's (1973) list of values.

Based on this discussion, there are three factors which distinguish participants in the boycott them from non-participants: 1) awareness of the COO's egregious actions; 2) interpretation of the offending nations' (COO's) actions as well as the actions of the offended nation, and 3) consumer values. Participants are well informed about the conflict and the hard conditions the offended nation (NationB) live in due to the offending nation's (NationA's) actions, which is consistent with the findings of previous boycott studies (e.g. Garret (1987). Non-participants may lack such awareness as it is the case with three of the respondents.

In relation to interpretation of both nations' actions, one of the non-participants in the boycott refuses to help the NationB through participation in the boycott against NationA because he believes that NationB is the one at fault. Participants in the boycott, however, believe that NationB deserves their support because NationA is engaged in transgression against NationB and they use the boycott to help NationB by exerting pressure on NationA to stop such transgression.

Participants are others-oriented who care for the welfare of all humans regardless of their national, ethnic, or religious backgrounds who are well informed. On the other hand, non-participants in the boycott are self-oriented people who have no interest in world politics and pursue and prioritise such values as a sense of accomplishment (completing studies) and pleasure (buying drinks for enjoyment).

## MANAGERIAL IMPLICATIONS

The findings of this research provide implications for international marketers who want to benefit from the boycott as well as the targets of the boycott who want to avoid its negative consequences on their marketing. For marketers who come from a country other than the offending COO, the boycott is an opportunity for them to attract consumers who are politically active and frequently exposed to the conflict, pursue values which promote the welfare of others, and believe that the COO is at fault, especially when violence between the conflicting parties escalates. They need to highlight the positive or at least the neutral position of their country which does not negatively contribute to the suffering of the offended nation.

Marketers from the offending COO need to target self-oriented consumers who do not give attention to political conflicts occurring outside their countries. These marketers still, however, have an opportunity to target the participants or potential participants in the boycott against their country. They can attempt to convince the public that the offended nation, rather than their country, is at fault, and that solidarity has to be shifted to their country. If this fails, they have two strategies to avoid the boycott. They can discount their country of origin and focus on other attributes of their products which may attract consumers to their products. Alternatively, they can distance their brands from their government unfavourable practices against the offended nations, and make associate their brands with corporate social responsibility which promotes human rights and the welfare of all people.

## CONCLUSION AND FURTHER RESEARCH

This study introduces the solidarity construct as an affective dimension of country's image which can influence TCNs' purchase decision to buy from a COO involved in offensive actions against another country or nation. It supports Makarem and Jae's (2016) findings that human rights violations play an important role in causing consumer boycotts, as it is the case with TCNs who boycott the offending COO in order to save a particular nation from its offenses.

As qualitative-interpretive approach was used, the model proposed in this research needs to be tested in future studies using quantitative research methodologies in order to obtain further validity, which can also be applied in different animosity contexts. Given the small sample used in this research, especially the sample of non-participants in the boycott, future studies need to further investigate the factors which distinguish participants from non-participants.

Animosity / boycott studies need also to test the effects of different awareness methods on consumer purchase decision / behaviour, possibly using projective research methods. Also, longitudinal research can be conducted in order to test the effects of time on consumer decisions. Additionally, further research is needed to set scales for animosity and solidarity as distinct constructs influencing consumer involvement in a political issue attracting international attention. Solidarity can be measured against countries'/nations' levels of (post-) materialism levels.

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## THE INFLUENCE OF CAUSE RELATED MARKETING (CRM) ON THE BRAND IMAGE AMONG CONSUMERS IN JORDAN

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### ABSTRACT

The main aim of this research study is to examine the influence of Cause-Related marketing campaigns on the brand image among Jordanian customers in terms of the brand image, intention to purchase solidarity purchase and brand loyalty. A self-administered questionnaire was distributed on 300 convenience sample in Amman, Jordan during the year 2015. The results of the study showed that cause related marketing is mainly used for charity issues as a form of the good will that the company has in regards to its community. Also, customers in Jordan understand the core concept of CrM and they have a full perspective about the concept, they were able to locate their attitudes towards the concept in regard to their own personality and beliefs which is a good indicator to the degree of knowledge that the Jordanian customers have.

*Keywords: Cause Related Marketing (CrM), Brand Image, purchase intention, solidarity purchase, Brand loyalty, buying behavior, commitment to society.*

### INTRODUCTION

Everything in the world is originated from a reason; it is normally triggered by a person or an activity which makes it happen from the first place. This is normally called as a (cause). Many philosophers have tried over the years to give a fine and direct definition to the word "cause". Butnariu (2007) defined the word "cause" as an action, event or a motive that triggers, motivates or stems something else to happen. From that definition, it can be easily noted that everything in our world happen due to a reason, there have to be a cause and an effect.

In marketing, there appeared a term that falls into those criteria; it is called the Cause Related Marketing, this term is not that old in the history of marketing, but it's managed to prove its influence over the last few decades. Basically, Cause Related Marketing or sometimes referred to as Cause Marketing is built up on the concept of driving customers to buy certain company's services or products because there is a financial profit or benefit for a nonprofit side.

## AIM AND OBJECTIVES

This current paper aims at understanding the influence of cause related marketing or as is it widely known "cause marketing" on the brand image among customers in Jordan within three variables which are: Purchase Intention, Solidarity Purchase and Brand Loyalty. The main question of the study will be "To what extent can cause related marketing be influential on the brand image in terms the intention to buy, the solidarity buying and the brand loyalty?"

## HYPOTHESES

The hypotheses of the study will be as follows:

- There is a statistically significant influence of cause related marketing on the brand image among Jordanian customers.

The sub-hypotheses of the study will be:

- There is a statistically significant influence of cause related marketing on the purchase intention among Jordanian customers.
- There is a statistically significant influence of cause related marketing on the solidarity purchase among Jordanian customers.
- There is a statistically significant influence of cause related marketing on the brand loyalty among Jordanian customers.

## LITERATURE REVIEW

### THE HISTORY OF CAUSE RELATED MARKETING

The concept of cause related marketing is becoming one of the hot topics specifically through the last decade. It is becoming more and more apparent among companies specifically after realizing the kind of effect that it has over the success and prosperity of the enterprise. The very first definition for the term cause related marketing, or as it will appear in this paper (CrM) was first defined back in 1988 by Varadarajan and Menon who were considered as the pioneers in this field, the authors defined CrM as *"The process of formulating and implementing marketing activities that are characterized by an offer from the firm to contribute a specified amount to a designated cause when customers engage in revenue-providing exchanges that satisfy organizational and individual objectives"* (Shabbir, et al 2009: p. 1231). Biglione and Woods (2007) defined the terms CrM as *"A way to promote strategic alliances between companies and civil society organizations (CSOs), stimulating social investment and mobilizing consumers and all of society to contribute towards different social causes"* (IDIS, 2007, P. 2). And one of the early definitions for the term was the one which was presented by Varadarajan and Menon in 1988 as an early unpolished

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definition referring to *"A new form of corporate philanthropy based on the rationale of profit-motivated giving"* (Varadarajan and Menon, 1988). The authors in that definition have used the word "Philanthropy" as a reference to the voluntary deeds that a company does to community. From another perspective Anghel and others (2011) define CrM as *"A commercial activity by which business and charities or causes form a partnership with each other to market an image, product or service for mutual benefit"* (Anghel, et al 2011. P. 73). According to Bronn and Virioni (2001) CrM is something that every corporate has to do as a form of corporate social responsibility which refers to *"The policy and practice of a corporation's social involvement over and beyond its legal obligations for the benefit of the society at large"* (Bronn & Virioni, 2001. P. 209).



Figure 1: CrM is a part of social responsibility (Anghel)

The very first attempt to market for a cause or to initiate a cause related marketing campaign was done by The American Express Corporate back in 1983. The corporate at that time have raised funds for the preservation of the statue of liberty. In no more than 4 months, the corporate managed to raise \$1.75 million for that cause and its benefits went up to 28% (Laszlo & Lyons, 2014).

## TYPES OF CRM

Looking at the previous literature, and examining the nature of CrM campaigns that are taking place among non profit and for profit organizations one can see that there are a lot of types that might be considered as main types of CrM. However, there are mainly three types for CrM which are (Sinčić Ćorić et al, 2011):

- **The traditional CrM**

This kind of cause marketing takes place when a part or a portion (set amount) of the profit from the purchase goes to a certain non profit body. That is when part of the amount that customers' payments goes to a certain donation or charity that the company generates after reaching a target. This type of cause marketing can be beneficial in terms of generating more sales, promoting the idea of repetitive

purchase, in addition to increasing the percentage of merchandize. Among the most famous examples of such cause marketing is Yoplait's campaign "save lids, save lives" for breast cancer (Grome, 2013).

- **Even sponsoring**

This type of cause marketing is based on a specific reason that the event is based on, from that, the collaboration from either one or more than one firm in exchange for donation; normally the donation is not direct in that type of cause related marketing.

- **Customers' fundraising**

This type of cause marketing is defined as a way of raising fund where customers use their own funds to support a certain non profit organization. Examples of that type of cause marketing is the point of sale campaigns and the peer to peer fundraising, it can also take even sponsoring into consideration specifically if it appeared through customers own efforts.

## **CRM AND BRAND IMAGING**

Lindberg (2010) defines Brand Image as the perception of customers towards a certain brand in accordance with the experience that is held in the customers' memory. Also, Maurya (2012) sees that brand image is defined as everything that people connect to a certain brand, which includes feelings, attitudes, perceptions, and decisions. In an overall estimation, brand image is the total of attributes and associations that customers connect to a certain brand (SondohJR et al, 2007).

In a study by Heidarian and Bijandi (2014) on the influence of CrM on brand perception in a garment industry, the authors aimed at understanding the role of cause marketing on the perception of the brand image in garment industry through distributing a total of 260 questionnaires on customers on Tehran. The results of the study showed that there is a positive and effective factor of cause marketing on the brand image specifically among suspicious customers. It was also found out that the motivations of the firm' behind going through the cause marketing plays a huge role in changing the mental image of the brand among consumers.

Another study by Qamar (2013) aimed at understanding the role of cause marketing on the intentional purchasing and brand accepting among customers in Pakistan. A total of 278 out of 350 respondents have gone through a self-administered questionnaire. The results of the study showed that cause related marketing campaigns have a deep contribute in the intentions of customers to purchase a certain product in addition to that it helped in enhancing the power of the corporate brand effectiveness.

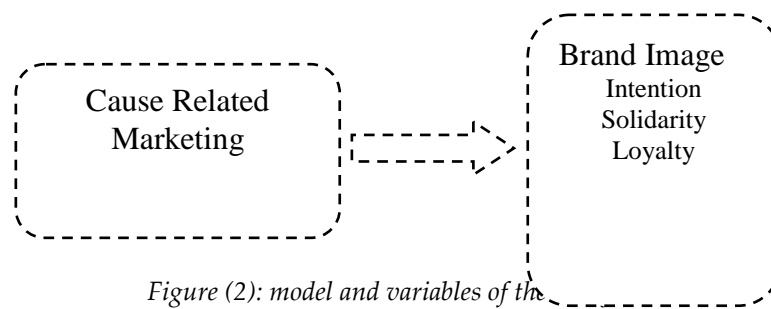


## METHODOLOGY

The followed methodological approach in the current research paper was descriptive in its nature; it was quantitative where the author formed a self-administered questionnaire and distributed it on a group of customers to form a convenience sample on different shopping malls and commercial complexes in the capital of Jordan (Amman). The convenience sample of the study reached 300 respondents in the final counting of the participants. The author tried to distribute and retrieve as much questionnaires as possible in order to understand the nature of influence that cause marketing might has on brand image specifically among Jordanian customers in Amman.

## STUDY MODEL

The model of the study will be as the following:



*Figure (2): model and variables of the*

The above model describes the relation between the variables of the study; the author here has taken into perspective the influence of cause related marketing on some factors of the brands image which are (the intention to buy, solidarity purchasing, and the brand loyalty).

## SAMPLE OF THE STUDY

The convenience sampling was chosen to form the sample of the study which reached in its final calculating to 300 respondents (customers) from different shopping malls and trading centers in the capital of Jordan (Amman).

## TOOL OF THE STUDY

The study was based on the questionnaire as a tool in order to collect data. The questionnaire consisted of two main parts, the first part is the demographic variables which included (gender, age, educational level, and income), while the second part covered the variables of the study which were (purchase intention, solidarity purchase and loyalty to brand); the questionnaire was built on likert (5) scale (strongly agree, agree, neutral, disagree, strongly disagree).

## RELIABILITY TEST:

A Cronbach Alpha test was used to ascertain instrument reliability. The value was = 84.2% for the questionnaire. All values are accepted since they are more than 60% (Malhotra, 2004).

## DATA PROCESSING

The data which was retrieved from the questionnaire was processed and treated through the SPSS (Statistical Package for Social Sciences). Through SPSS formulas, descriptive analysis was done on the data in addition to the hypotheses testing that included simple regression of each hypothesis presented in this paper.

Category	Frequency	Percentage%
<b>Education</b>		
Diploma or less	21	7.0
Bachelor	191	63.7
Master	78	26.0
PHD	10	3.3
Total	300	100.0
<b>Gender</b>		
Male	180	60.0
Female	120	40.0
Total	300	100.0
<b>Income</b>		
Less than \$500	15	5.0
\$501-1000	141	47.0
\$1001-1500	55	18.3
Above \$1500	89	29.7
Total	300	100.0
<b>Age</b>		
Less than 23 years	27	9.0
24-29 years	119	39.7
30-35 years	129	43.0
Above 36 years	25	8.3
Total	300	100.0

Table (1): Sample distribution according to demographic variables

## RESULTS AND DISCUSSION

### - Results

The current section will be presented in two sections; the first one will cover the analysis of the demographic variables while the second section will cover the analysis of the study variable. Means and standard deviations were computed in order to show the degree of influence that CrM had on the brand image among customers in Jordan.

- **First section: Demographic variables**

Frequency and percentages were computed for the sample's characteristics.

The table above indicates that 21% of the sample has a diploma or less, 63.7% of the sample has bachelor degree, and the rest have higher studies. Which shows that the higher percentage of the sample were of bachelor degree holders as an indicator of individuals who were mostly interested in responding to the questionnaire and going through its paragraphs. This result rhymes with what appeared with Jeddi and Zaiem (2010) referring to the fact that individuals with higher educational level are more likely to purchase as per the brand and the label that the item is carrying compared to lower educational levels. As for the gender issue, and from the analysis of the study it appeared surprisingly that 60% of the sample were males and 40% was females, this was considered to be surprising due to the fact that women are known to be more interested in shopping and brands compared to men, in addition to that, this result contradicted with what Moosmayer (2010) reached in his study which highlighted that women were more interested in CrM compared to men, and the amount of donations that appeared from women were larger than those appeared by men. From another perspective, it can be said that considering the application process took place within the malls and the commercial complexes where families are shopping, it was the man who answered the questionnaire not the woman. On the contrary, a study by Zenyali and Safarnia (2012) which took place in Iran and aimed at focusing the attitudes of customers in terms of the intention to buy and gender, the result indicated that there a difference between males and females in their attitudes towards CrM for the benefit of males, while Safarnia and other (2012) came up with the same results of the deep influence of CrM on males more than females and the general influence that CrM had on the customers intention to buy in Iran and China. As for the income part, the analysis showed that 5% of the sample earns less than \$500 per month, whereas 47% of the sample earns between \$501-1000 per month. This can be read as a type of imposed state where the income has a really vivid role to play when it comes to shopping and purchasing. People who earn less money will care less for the type of social deeds that a company is performing and their main interest will focus on the prices and quality of the goods that they are dealing with. Finally, in regards to the age element, it was found out that the highest percentage of respondents were of individuals aged between 30-34 years which can be considered as the age where an individual is fully aware of the meaning of social responsibility and the concept of servicing a society.

To sum up, the overall description of the individual who participated in the study was male individuals who holds bachelor degrees aged between 30-34 years and earned 501-1000 JOD per month.

- **Second section: Study variables analysis**

Mean and standard deviation are used to describe attitudes toward following questions:

- **CrM positively influences the brand image among customers.**

From the descriptive analysis it is appeared that CrM has a positive influence on the brand image from the customers' perspective, it is attributed to the fact that the means of the paragraphs are above the mean of the scale (3). The most influential paragraph of all was "I think that most companies use cause related marketing for profit purposes only" which scored the highest rank (4.43) followed by "I do respect companies which participates in local community service" which came in the second rank (4.10). It can be seen that most influential paragraphs came somewhat contradicting, a large group of respondents believe that companies are carrying society related campaigns just for the sake of increasing their profit margin and spread their brand on a wider domain. This belief was followed by a totally contradicting one which stated that most of the respondents respected companies who initiated such campaign that might support the public policy. This result came along with the results which were reached by Heidarian and Bijandi (2015) arguing that CrM *"is effective on the consumer's mental image of the brand and consumers make judgment about the product quality based on mental utility of the quality"* (Heidarian and Bijandi, 2015. P. 416)

- **CrM influences the purchase intention among customers.**

From the descriptive analysis it is appeared that the most influential paragraph was "I think that this kind of marketing is a form of social contract between the company and the society so I am willing to purchase their goods" which scored the highest rank (4.38) followed by a really contradicting paragraph which indicates "I am not willing to buy such goods because I know that it will never achieve the claimed aims" scoring (4.10). This draws the attention that CrM can increase the intention to purchase the goods if they were connected to a certain non-profit goal. The results here came along with what Qamar (2013) reached in his study which stated that *"Cause Related Marketing campaigns do contribute in consumers purchase intention"* (Qamar, 2013. P. 633). Another study by Corbishely and Mason (2011) indicated that CrM had a positive influence on the purchasing behavior among respondent, the author saw that customers were more "responsive" to CrM in accordance to the cause, the results of the study matched the current study which indicated that age group 30-41 years were more interested in buying CrM products, they had positive attitudes towards the concept itself compared to the other age groups.

- **CrM influences solidarity purchase among customers.**

From the descriptive analysis it is appeared that that CrM does have a positive influence on solidarity purchasing, the analysis of the paragraph scored higher than (3) scale. The most influential paragraph was "I don't support that kind of marketing because I am sure the money will not be used for the promoted reason" ranking the highest of (4.03) followed by "I only buy the item if the cause of

marketing was convincing to me" ranking (3.92) which shows the negative attitude that customers held for cause related marketing and the level of belief that they had for that kind of marketing.

- **CrM influences the loyalty towards the brand among customers.**

The analysis of this question came with a positive connection between the CrM and the brand loyalty among customer as all of the paragraphs achieved higher than (3) on the scale. However, the most influential paragraph among the answered questionnaire was "companies who support their society reflex their good intentions" scoring (4.37) followed by "I always buy the goods of the brand that I prefer which supports me and my community" scoring (3.92). This result matched what Hunjara and others (2012) reached to in their study stating that CrM campaigns have positive influence on the brand loyalty which in its turn influences the sales. Also, Adiwijaya and Fauzan (2012) referred in their study to the same idea in which the CrM approaches that companies usually carry out can increase the level of customer satisfaction which eventually leads to the status of increase in the brand loyalty.

- **Hypothesis testing**

Basically, concerning the hypotheses of the study, the following table describes results of hypotheses testing.

Hypothesis	R	R Square	F	Sig.	Constant(B)	t	Sig.
1	.575	.331	147.178	.000	2.241	0.411	12.132
2	.497	.247	97.555	.000	2.117	.433	9.877
3	.295	.087	28.315	.000	2.868	.245	5.321

Table (2): Hypotheses Testing

**H1:** There is a statistically significant influence of cause related marketing on the brand image among Jordanian customers.

Simple Regression is used to test above hypothesis; it is found that a calculated value of (F) is significant at (0.05) level. This means that null is rejected, which means that there is a statistically significant influence of cause related marketing on the brand image among Jordanian customers with moderate Pearson correlation 0.575. This idea was examined by Hajikarimi and others (2014) when they tried to understand the influence of the cause related marketing with the mediating role of firm motivations, social responsibility, and perceived quality among consumers. So the author has chosen to measure the direct influence of the CrM on the brand image from different perspective that took into perspective the factors within brand image itself.

**H2:** There is a statistically significant influence of cause related marketing on the purchase intention among Jordanian customers.

Simple Regression is used to test above hypothesis; it is found that a calculated value of (F) is significant at (0.05) level. This means that null is rejected, which means that there is a statistically significant influence of cause related marketing on the purchase intention among Jordanian customers with moderate Pearson correlation 0.497. In order to form this hypothesis the author depended on the aim of Fianto (2014) in his paper "The Influence of Brand Image on Purchase Behavior through Brand Trust" Fianto in that sense tried to understand the influence of the brand image in the intention to purchase from a behavioral perspective.

**H3:** There is a statistically significant influence of cause related marketing on the solidarity purchase among Jordanian customers.

Simple Regression is used to test above hypothesis; it is found that a calculated value of (F) is significant at (0.05) level. This means that null is rejected, which means that there is a statistically significant influence of cause related marketing on the solidarity purchase among Jordanian customers with weak Pearson correlation 0.295.

**H4:** There is a statistically significant influence of cause related marketing on the brand loyalty among Jordanian customers.

Simple Regression is used to test above hypothesis; it is found that a calculated value of (F) is significant at (0.05) level. This means that null is rejected, which means that there is a statistically significant influence of cause related marketing on the brand loyalty among Jordanian customers with moderate Pearson correlation 0.597.

As for the afro-mentioned variables of loyalty to the brand and the solidarity purchasing, mainly the author depended to measure those two variables on what Galan-Ladero (2012) has tested to measure the attitude of customers towards cause related marketing. Galan-Ladero tried to understand in what sense some variables helped in forming the attitude of customers towards the cause related marketing. Gathering between the three mentioned previous studies the author of the current research study formed the hypotheses and main aim to understand the influence of the cause related marketing on the brand image launching the debate from the variables of intention, solidarity, and loyalty.

## CONCLUSION

Through the current research study, and launching from the nature of results which were attainable through the analysis, it was found out the following:

- Cause-Related Marketing has a deep influence on the way the brand is being presented.

- Some of the participants have connected it to the public policy and the commitment that a company has towards its society while other saw it as a social contract that is found between the company and the society and bonds the first to the well-fare of the later based on some actions and campaigns that can be done in order to develop the nature of life style that people lead.
- In general, and looking at the concept from a more general perspective it is normally known that the idea of cause related marketing is used for charity issues, it can be seen as a support to the local as well as a presentation to the good well that the company has in regards to its brand and intentions.
- Through the analysis, it was seen that customers in Jordan understand the core concept of CrM and they have a full perspective about the concept. In addition to that, they were able to locate their attitudes towards the concept in regard to their own personality and beliefs which is a good indicator to the degree of knowledge that the Jordanian customers have.

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# PHASE-SPECIFIC ANTECEDENTS OF INNOVATIVE WORK BEHAVIOR: THE ROLE OF KNOWLEDGE JOB CHARACTERISTICS AND ORGANIZATIONAL CLIMATE

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## ABSTRACT

Employee innovativeness has become a major human resource challenge within the global and highly competitive business environment. Recent studies have confirmed organizational climate and job characteristics as critical antecedents and a driving force for innovative work behavior (IWB). Although we know that the micro-innovation process is a multi-stage process we still lack a more clear understanding of the phase-specific antecedents of IWB. Therefore, the aim of the paper is to investigate and determine specific relationships between knowledge job characteristics, organizational climate and different employee IWB stages. A cross-sectional field research was conducted on the sample of 111 knowledge workers from six telecommunication companies in Croatia. Our research findings indicate that employees' knowledge job characteristics in general are positively related to each phase of their IWB while perceived organizational climate seems to be relevant only for idea promotion. Nevertheless, the role and importance of particular job characteristics clearly differ along the innovation process. The present study provided industry-specific empirical insights about the current level of IWB of knowledge workers, as well as comparable results that can offers better understanding of job-level innovations.

**Keywords:** *innovative work behavior, job design, organizational climate, creativity and innovation, Croatia*

## INTRODUCTION

Organizations need creative and innovative employees to retain their competitive advantage. Thus, employee innovation or innovative work behavior (IWB) has been put upfront as a multi-stage process by which new ideas are created and implemented within the workplace (e.g., Holman *et al.*, 2012). Such a positive organizational behavior should not only be expected, but also intended and encouraged

through human resource management (HRM) policies and practices. Previous studies have already examined numerous HRM- or people-based antecedents of job-level innovations (e.g., Scott and Bruce, 1994). Both job characteristics and organizational climate have been recognized as critical antecedents and a driving force for employee innovativeness (e.g., Hammond *et al.*, 2011; Montani *et al.*, 2014).

However, there is still a lack of findings how they mutually shape innovative outcomes. In addition, the link between job design and IWB has been primarily examined by primarily addressing the role of task characteristics (Hackman and Oldham, 1976). More recent approach to job design, i.e. Work Design Questionnaire (WDQ) developed by Morgeson and Humphrey (2006) has recognized the relevance of other job features such as social, knowledge and work context characteristics. As knowledge economy is gaining the momentum worldwide, it seems particularly interesting to examine how knowledge job characteristics determine the level of individual innovativeness at work. Similarly, already Amabile *et al.* (1996) and Ekvall (1996) had recognized that organizational climate represents a broader context that might constrain or foster creativity. While employees' shared perceptions of the importance of creative and innovative behavior are highly relevant for contemporary organizations, we still do not know how team-level or organizational climate is related to different stages of the innovation process (i.e. idea generation, idea promotion, and idea implementation).

The aim of the current study is to capture and determine the pattern of relationships between job design, organizational climate and employee innovativeness. Therefore, we conducted a cross-sectional field research within the highly-innovative telecommunication sector to gain a better understanding of the current job-level innovation practices. Employees in the telecommunication sector are in the focus of our research as this sector was one of the most dynamic and fast growing ones in Croatia in the last decade. A heterogeneous sample of industry-specific individuals has been examined and knowledge workers' perceived values have been analyzed.

The study clearly points to the idiosyncratic role and situational importance of organizational climate and particular knowledge job characteristics along the innovation process. It confirms and extends our phase-specific knowledge about IWB antecedents. Being one of the first innovation management job-level studies conducted in the Euro Mediterranean region, it provides comparable results and offers better understanding of the innovation imperative.

## LITERATURE REVIEW AND HYPOTHESES DEVELOPMENT

### *Innovative work behavior*

Realizing the central importance of creativity and innovation for maintaining the sustainable competitive advantage (e.g., Bysted and Hansen, 2015), scholars increasingly strive to define and determine factors that can help organizations boost job-level innovativeness. Innovative behavior of employees – a concept similar to intrapreneurship or entrepreneurial behavior in organizations has become a spotlight issue not only for managers and HR practitioners, but as well for scholars and policy makers. IWB represents “an intentional introduction and application of new ideas, processes, products or procedures, within a role, group or organization” (West and Farr, 1990). Such a positive employee behavior includes exploration of opportunities, the generation of new ideas, idea promotion and championing, and implementation activities. Specifically, individuals can be innovative by generating new ways to perform their job, by coming up with novel procedures and innovative ideas, and/or by reconfiguring known approaches into new alternatives (Prieto and Perez-Santana, 2014).

IWB has dominantly been understood as a process that encompasses creativity- and implementation-oriented behavior, including not just generation and promotion of new and useful ideas concerning products, services, processes and procedures (i.e. creativity-oriented behavior), but also their implementation in the existing working environment (i.e. implementation-oriented behavior) (Dörner, 2012). Although the process-nature of innovativeness has been somewhat acknowledged, and several authors already pointed that various IWB phases are probably predicted by different factors (e.g., Yuan and Woodman, 2010) and ask for various individual behaviors (e.g., Kleysen and Street, 2001), we still need to understand the ambidextrous nature of IWB. The existing research in the innovation management literature has been predominantly oriented to creativity behavior, neglecting implementation-oriented aspects of employee behavior that seems to be critical in the innovation process (Hernaus, 2016).

### *Job design and knowledge job characteristics*

Job design represents a useful HRM tool that significantly shapes daily working practices, including innovative actions of individuals. It can be defined as set of processes and outcomes of how work is structured, organized, experienced, and enacted (Parker and Wall, 1998). Job design is mostly assessed through job characteristics that are seen as objective and measurable work attributes (e.g., Morgeson and Campion, 2003). Recently developed WDQ (Morgeson and Humphrey, 2006) and related meta-analytic study of Humphrey *et al.* (2007) provided an integrative job-design typology addressing task-, knowledge-, social- and contextual job characteristics.

Knowledge job characteristics particularly need to be put upfront as work has become more cognitively-demanding and complex due to increased technological changes, quest for skill variety and knowledge-based organizations (Humphrey *et al.*, 2007). This understudied job design category reflects the kinds of knowledge, skill, and ability demands that are placed on an individual as a function of what is done on the job (Morgeson and Humphrey, 2006). Five knowledge job characteristics are particularly important and highly-relevant: *job complexity* (i.e. extent to which the tasks on a job are complex and difficult to perform); *information processing* (i.e. degree to which a job requires attending to and processing data or other information), *problem solving* (i.e. the degree to which a job requires unique ideas or solutions and reflects the more active cognitive processing requirements of a job), *skill variety* (i.e. extent to which a job requires an individual to use a variety of different skills to complete the work) and *job specialization* (i.e. extent to which a job involves performing specialized tasks or possessing specialized knowledge and skill).

While job design is considered to be an important determinant of IWB, and large empirical evidence shows that task- and social job characteristics are associated directly with both the generation and implementation phases of the innovation process (e.g. Oldham and Cummings, 1996; Axtell *et al.* 2000; Hammond *et al.*, 2011; Anderson *et al.*, 2014), we still lack a complete understanding of the role of knowledge job characteristics within the innovation process. For instance, Frese and Fay (2001) proposed that job complexity makes innovation more likely since it promotes personal initiative (Ohly *et al.*, 2006), but empirical studies only examined the positive influence of job complexity on creativity (e.g., Tierney and Farmer, 2002; Hammond *et al.*, 2011). In addition, problem solving and skill variety have also been recently considered to have an important influence on innovation (Daniels *et al.*, 2011; Grant and Berry, 2011). Unfortunately, the relationship between knowledge job characteristics and IWB was examined partially, and some specific job characteristics have not been yet addressed. Thus, recognizing the need for analyzing the nature of job characteristics that provide the opportunity to use and acquire knowledge (e.g., Ramamoorthy *et al.*, 2005) within the innovative context, we propose the following hypothesis:

H1: *Knowledge job characteristics (i.e. job complexity, information processing, problem solving, skill variety, and job specialization) are positively related to employees' IWB.*

### ***Organizational climate***

Climate has been characterized as employee perceptions of the organizational work environment (Rousseau, 1988). It represents a contextual factor (i.e. shared employees' perceptions of organizational

policies, practices, and procedures regarding their workplace and expected behaviors, cf. Schneider, 1990) that has a strong influence on shaping individual behaviors (Ekvall, 1996).

Organizational climate has been emphasized to have a significant influence on level of innovation in organizations (e.g., Scott and Bruce, 1994; Axtell et al., 2000). A climate for innovation has been labeled as a highly relevant contextual issue either for creativity (e.g., Černe *et al.*, 2014) or innovation implementation (e.g., Somech and Drach-Zahavy, 2013). Moreover, managers whose employees perceive their organizations to be open to and encouraging innovation and receptivity of new ideas, may expect to have the best of both, i.e. higher levels of IWB (e.g., Hülshager *et al.*, 2009). Strong and positive climate for innovation that is characterized with open communication and trust, and provides a challenging work and cohesion among employees (Sluis, 2004) can be seen as a climate that will be particularly related to innovation. Thus, we propose our second hypothesis:

H2: *Organizational climate is positively related to employees' IWB.*

#### ***Phase-specific influence of knowledge job characteristics and organizational climate on employees' IWB***

Recently, several authors have noted that it is possible to recognize a distinct influence of job characteristics on different stages of the micro-innovation process. For example, Bledow *et al.* (2009) stressed that it is possible to recognize the need for different task demands depending of idea generation and idea implementation. Yuan and Woodman (2010) also mentioned that various IWB phases are probably predicted by different factors. Such an argument calls for a contingency-based approach that emphasizes potentially different behaviors required for creative and innovative activities (e.g., Scott and Bruce, 1994; de Jong and den Hartog, 2010). Some of the previous studies (e.g. Axtell *et al.*, 2000; Baer, 2012) showed that idea implementation is more strongly associated with group or organizational factors than with individual or job factors. In other words, enriched knowledge job characteristics such as job specialization, problem solving requirements and information processing might be relevant for idea generation (i.e. creativity-oriented behavior), while organizational climate should facilitate idea promotion and implementation phases (i.e. innovation-oriented behavior). Therefore, we propose our third hypothesis:

H3: *Knowledge job characteristics have a stronger influence on idea generation, while organizational climate is a dominant predictor of idea promotion and implementation.*

## RESEARCH METHODOLOGY

### *Sample*

To test the proposed hypotheses, research methodology and instrument have been developed. We used self-reported anonymous questionnaire that gathered perceived values of employees. On-line survey invitation had been sent via e-mail addresses to the conventional sample of 147 employees from six major telecommunication companies in Croatia during December 2015. We chose employees working in core business activities and innovative jobs. Total of 111 questionnaires were received back, presenting a very high-response rate of 75.5%. Initial analysis revealed that eleven answers were not filled out correctly (e.g., missing values) so those responses were excluded from further data analysis. The final sample consisted of one hundred individuals who were predominantly men (72%), had on average 38 years of age ( $SD = 7.2$ ) and were largely highly-educated (86%). The average job tenure of respondents in current organizations was 11.9 years ( $SD = 6.73$ ). Sampled individuals were mostly working in a technical area (71%), occupying either professional positions (76%), or being project managers (17%) and supervisors (7%).

### *Measures*

Survey respondents were kindly asked to provide their perceptions about their work organization, the working atmosphere and personal idea management efforts. Questionnaire items were adopted from prior studies, and measured on a five point Likert-type scale (response options ranged from 1 = “strongly disagree” to 5 = “strongly agree”).

Items measuring *innovative work behavior* (IWB) were adopted from Jansen (2000). Respondents were asked to assess their supervisor's perception of his or her engagement in the micro-level innovation processes – i.e. *idea generation* (IWB1, 3 items,  $\alpha = .827$ ), *idea promotion* (IWB2, 3 items,  $\alpha = .691$ ) and *idea implementation* (IWB3, 3 items,  $\alpha = .789$ ). The overall measure of IWB was also calculated as an aggregate measure of different IWB phases (IWB, 9 items,  $\alpha = .887$ ). To analyze *knowledge job characteristics* respondents were asked to indicate the extent to which a particular statement describes the specific nature of their jobs. Five job characteristics' scales were adopted from the WDQ questionnaire developed by Morgeson and Humphrey (2006), and encountered 20 items measuring: *job complexity* (JCOMPLEX, 4 items,  $\alpha = .809$ ), *job specialization* (JOBSPEC, 4 items,  $\alpha = .812$ ), *information processing* (PROCINF, 4 items,  $\alpha = .758$ ), *skill variety* (SKILVAR, 4 items,  $\alpha = .860$ ) and *problem solving* (PROBSOLV, 4 items,  $\alpha = .702$ ). *Organizational climate* instrument was adopted from Sung and Choi (2014) and it measured respondent's perception on how organizational climate of their organization accepts new ideas, develops mutual trust and gives employees the opportunity to freely communicate

their ideas and opinions (CLIMATE, 3 items,  $\alpha = .764$ ). Although organizational climate was conceptualized here as an individual-level variable, similar to prior research for the sake of parsimony we empirically aggregated individual perceptions of climate at the organizational level (Schneider, 1990; Montani et al., 2014). We also controlled for gender, age (measured in years), job tenure (measured in years), educational level, (high school degree, college degree, university degree, postgraduate/master degree), job type (technical, marketing, sales, finance, others) and occupational position (professional workers, project managers, supervisors).

### *Data analysis*

Data collected were analyzed in several steps and using various statistical methods in SPSS 23.0 software package. The descriptive data analysis was initially conducted together with the reliability analysis. Cronbach's alpha coefficients were used to test internal consistency of the research instrument applied (Feldt and Kim, 2008). As previously indicated, calculated Cronbach's alpha coefficients were larger or very near ( $\alpha = .691$  for IWB2) the cut-off value of .70, which implies internal consistency of the scale's items.

Descriptive data analysis indicated that respondents perceive to have knowledge-enriched jobs, where skill variety ( $\bar{x} = 4.41$ ,  $SD = .55$ ) and information processing ( $\bar{x} = 4.41$ ,  $SD = .53$ ) encountered highest average scores. They believe to have complex jobs that require various skills and a lot of information processing in order to perform their formal tasks. Additionally, respondents perceive their jobs as highly specialized with tasks that seek problem solving on a daily basis. However, it should be kept in mind that given results can be somewhat attributed to the sample characteristics, since most of the respondents were technical experts who work in a rather complex area of expertise. The perceived value of organizational climate ( $\bar{x} = 3.44$ ,  $SD = .79$ ) and the overall level of IWB ( $\bar{x} = 3.41$ ,  $SD = .78$ ) had significantly lower average values than examined job-design characteristics. Telecommunication employees indicated that they perceive to work in the organizational climate that accepts and encourages creation of new ideas, and they believe to practice creative and innovative behavior to a certain extent. However, we found that IWB phase-specific behaviors somewhat differed. The highest level of innovation engagement was present in the idea generation ( $\bar{x} = 3.72$ ,  $SD = .85$ ), as opposed to employees' engagement in idea promotion ( $\bar{x} = 3.23$ ,  $SD = .90$ ) and idea implementation ( $\bar{x} = 3.29$ ,  $SD = .93$ ). Correlation and regression analysis were further conducted to test the nature of the relationships between analyzed variables.

## RESULTS

We tested for the existence of relationship between each knowledge job characteristic (i.e. job complexity, job specialization, information processing, skill variety, and problem solving), organizational climate and both overall- and phase-specific employee innovativeness behavior. Table 1 presents correlation matrix for all the variables analyzed in the study. Pearson's correlation coefficients have revealed statistically significant positive relationship between knowledge job characteristics and overall IWB, where problem solving ( $r = .472$ ,  $p < .01$ ,  $N=100$ ), information processing ( $r = .410$ ,  $p < .01$ ,  $N=100$ ) and skill variety ( $r = .403$ ,  $p < .01$ ,  $N=100$ ) showed highest coefficient values. Taking the phase-specific view, three out of five knowledge job characteristics (i.e. PROCINF, SKILVAR and PROBSOLV) were positively related to each of the IWB phases; job complexity and job specialization were not significantly related within the idea promotion phase, and job specialization was neither statistically significantly related to the idea generation. Nevertheless, correlation results clearly show that knowledge job characteristics are predominantly positively related to IWB, thus confirming our first hypothesis.

Organizational climate (as a team-level antecedent) was positively related to overall IWB as an outcome variable ( $r = .202$ ,  $p < .05$ ,  $N=100$ ). However, somewhat different results were reported considering different stages of IWB. Interestingly, a climate for innovation has been statistically significantly positively related to IWB only within the idea promotion stage ( $r = .279$ ,  $p < .05$ ,  $N=100$ ), but not for idea generation and idea implementation phases of the micro-innovation process. Therefore, we were able to partially accept our second hypothesis.

Additionally, correlation analysis showed negative correlation between overall IWB and control variables such as job tenure ( $r = -.262$ ,  $p < .01$ ,  $N=100$ ) and age ( $r = -.248$ ,  $p < .05$ ,  $N=100$ ). This indicates that IWB is decreasing with higher job tenure and age. No statistically significant correlations have been found between job type, occupational group, educational level and the outcome variable.



		N	M	SD	1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16
1	JCOMPLEX	100	4.34	.56	1															
2	JOBSPEC	100	4.25	.62	.714**	1														
3	PROCINF	100	4.41	.53	.734**	.639**	1													
4	SKILVAR	100	4.41	.55	.813**	.638**	.756**	1												
5	PROBSOLV	100	4.05	.63	.697**	.497**	.734**	.760**	1											
6	CLIMATE	97	3.44	.79	-.053	.132	.051	-.043	.065	1										
7	Gender	100	1.72	.45	.137	.268**	-.016	.072	.018	.077	1									
8	Age	99	38.02	7.20	-.122	.080	-.102	-.144	-.145	.166	.215*	1								
9	Job tenure	98	11.91	6.73	-.161	.046	-.149	-.160	-.186	.168	.153	.859**	1							
10	Job type	100	1.64	1.19	-.106	-.299**	-.018	-.092	.025	.011	-.452**	-.328**	-.306**	1						
11	Educational level	100	2.89	.69	-.055	-.017	.032	-.103	-.097	.127	.030	-.123	-.321**	.134	1					
12	Occupational group	100	1.45	.85	.100	-.135	.042	.137	.170	.011	.069	-.030	-.034	.172	.120	1				
13	IWB1	100	3.72	.85	.373**	.178	.449**	.379**	.476**	.137	-.008	-.341**	-.323**	.026	.215*	.153	1			
14	IWB2	100	3.23	.90	.185	.191	.252*	.281**	.302**	.279**	-.028	-.112	-.130	.016	.187	.139	.596**	1		
15	IWB3	100	3.29	.93	.350**	.208*	.374**	.391**	.455**	.110	-.051	-.203*	-.237*	-.011	.039	.158	.768**	.545**	1	
16	Overall IWB	100	3.41	.78	.347**	.222*	.410**	.403**	.472**	.202*	-.034	-.248*	-.262**	.011	.166	.173	.901**	.820*	.890**	1

\*  $p < .10$ ; \*\*  $p < .05$ ; \*\*\*  $p < .01$

Table 1. Correlation analysis results

Next, regression analyses were conducted to test the influence of organizational climate and different knowledge job characteristics on employees' IWB. Multiple regression models were compared for the following outcome variables – three different IWB phases as well as for the aggregated IWB measure. Best fit models *per* outcome variable are presented in Table 2.

Dependent Independent & Control	IWB Overall		IWB1 <i>Idea generation</i>		IWB2 <i>Idea promotion</i>		IWB3 <i>Idea implementation</i>	
	$\beta$	<i>p-value</i>	$\beta$	<i>p-value</i>	$\beta$	<i>p-value</i>	$\beta$	<i>p-value</i>
JCOMPLEX	-	-	-	-	-	-	-	-
JOBSPEC	-	-	-.222	.068*	-	-	-	-
PROCINF	.172	.172	.322	.022**	-	-	.119	.373
SKILVAR	-	-	-	-	.290	.003***	-	-
PROBSOLV	.293	.024**	.345	.007***	-	-	.331	.017**
CLIMATE	.215	.015**	.178	.040**	.328	.001***	.106	.253
Gender	-	-	-	-	-.108	.263	-	-
Age	-.238	.008***	-.489	.006***	-.120	.221	-.159	.093*
Job tenure	-	-	.201	.277	-	-	-	-
Job type	-	-	-.138	.140	-	-	-	-
Educational level	-	-	.164	.091*	-	-	-	-
Occupational group	.113	.199	-	-	.117	.218	.087	.352
Adjusted R <sup>2</sup>	<b>.307</b>		<b>.380</b>		<b>.180</b>		<b>.216</b>	

\*  $p < .10$ ; \*\*  $p < .05$ ; \*\*\*  $p < .01$

Table 2. *Regression analysis results*

Our regression models revealed that different knowledge job characteristics do not have equal influence on the specific IWB phases. The role and importance of particular job characteristics clearly differ along the innovation process as multiple regression analyses revealed the existence of phase-specific antecedents of IWB. During the initial (creativity) phase, problem solving ( $\beta = .345$ ,  $p < .01$ ), information processing ( $\beta = .322$ ,  $p < .05$ ) and job specialization ( $\beta = -.222$ ,  $p < .10$ ), together with organizational climate ( $\beta = .178$ ,  $p < .05$ ) reported to have a significant influence on idea generation. Within the idea promotion phase, skill variety ( $\beta = .290$ ,  $p < .01$ ) and organizational climate ( $\beta = .328$ ,  $p < .01$ ) have been determined as significant antecedents, while problem solving ( $\beta = .331$ ,  $p < .05$ ) was recognized as a single antecedent relevant for the idea implementation phase. In addition, employee age as a control variable had a moderating effect on the examined cause-and-effect relationship, where younger employees perceived to be more creative and innovative than their experienced counterparts. Therefore, our third hypothesis is partially accepted as knowledge job characteristics really have a stronger influence on idea generation than idea promotion and implementation; although, organizational climate seems to be important both for idea generation and promotion.

## DISCUSSION AND CONCLUSION

This paper sought to analyze and empirically test the relationship between different knowledge job characteristics, organizational climate and IWB. Specifically, our goal was to examine and determine phase-specific antecedents of the micro-innovation processes. The cross-sectional field research investigated work-related perceptions of knowledge workers employed within Croatian telecommunication sector. Statistical analyses initially showed that all analyzed aspects of knowledge job characteristics and organizational climate are positively related to IWB. However, regression analyses further revealed that different IWB phases are under the influence of different job characteristics. The most important job-level antecedent across different IWB phases is problem solving. Since problem solving is conceptually related to the creativity at work (Morgeson and Humphrey, 2006), we might conclude that our results confirm previous studies by indicating the importance of problem solving for IWB (e.g., Scott and Bruce, 1994). On the other hand, job complexity does not influence IWB of sampled individuals. This is also in line with previous research efforts that noticed how influence of complexity disappeared when other variables were introduced (e.g., Ohly *et al.*, 2006). Organizational climate as a team-level antecedent is positively connected with all phases of IWB, thereby confirming findings that already emphasized the importance of working atmosphere for enhancing innovativeness (e.g., Scott and Bruce, 1994; Imram *et al.*, 2010). Organizational climate fosters innovation by ensuring employees' skill in innovation use, providing incentives for innovation use and disincentives for innovation avoidance, but also by removing obstacles in using innovation (Klein and Speer Sorra, 1996). However, it is interesting that our results indicate that organizational climate has no effect on idea implementation, but has a major influence on idea generation and idea promotion phases. This leads to conclusion that current organizational climate within Croatian telecommunication companies does not support idea implementation. Employees are not supported enough to go for an extra mile to deliver the innovative idea to the market. Therefore, organizational leadership should strive to improve organizational climate by directing employees towards innovative behavior, by developing an open communication and by introducing the compensation system that rewards creativity and innovation.

Our research findings should be examined in the light of certain limitations. The first limitation is related to the questionnaire itself. IWB measures were self-reports, potentially leading to the problem of subjectivity. There is also a problem of the common-method bias because the same respondents have answered on both independent and dependent variables. Also, the study sample was rather small and biased towards professional workers who primarily occupy technical jobs. Future research should include more heterogeneous sample of both job types and industries to offer more generalizable conclusions. Finally, other antecedents from multiple levels of analysis could be analyzed, such as

leadership and management practices that can hinder or ease innovation process in organizations. Despite potential limitations, the research findings have offered an insight into the current level of IWB of knowledge workers in Croatia. We believe that theoretical contribution of this study is in taking a phase-specific view of the multi-stage and multi-level innovation process, thus offering a contingent approach to the understanding of the innovation process at the individual level. Additionally, our paper contains new insights about how to foster innovation in a telecommunication sector. It emphasizes gaps and areas of improvement that managers can acknowledge and address in their everyday working practice.

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## PREDICTION OF SEASONALLY CLEANED DATA CONCERNING FOREIGN TRADE EXCHANGE

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### ABSTRACT

This paper presents an original method suitable for predictions in seasonally cleaned economic time series. The method makes use of two mutually opposite polynomial trends, visually shaped as a fin, and the parameters of this model are estimated. This approach provides us with a relatively narrow non-stochastic prediction interval, which is suitable for short-time predictions in the underlying economic time series. The described fin-shaped prediction is illustrated on real data of total exports from the Czech Republic.

**Keywords:** *Imports and exports of goods and services, polynomial fin-shaped trends, non-stochastic span of predictions.*

### INTRODUCTION

Virtually any considerations related to the economy of the Czech Republic are connected with imports and exports. The Czech economy is small and open; therefore, it is considerably dependent on foreign trade. One of the starting points to quantitative analysis of this important and sensitive factor is the time series of foreign trade, namely, total exports.

When analysing time series in the area of foreign trade, there are many unresolved issues connected with eliminating the influence of outliers, and also with constructing predictions (cf. Hummels and Klenow, 2005). The present contribution aims at addressing these issues. From the viewpoint of statistics, the evolution of foreign trade is rather complex due to the existence of many administrative measures (customs duties, taxes, exchange rate interventions, etc.), which considerably interfere with the stochastic structure of the foreign trade time series (cf., e.g. Marek and Vrabec, 2015 or Arise, 2000)

This fact is manifested in several respects. First of all – it is rather risky to formulate any elaborated, quantified hypothesis on seasonal aspects of time series in the area of foreign trade (exports) and to start with seasonal cleaning based on such a hypothesis. Even though such an approach is sometimes taken in practice, the reason is that it is practically inevitable, and we have to be aware of crude

approximations we thus admit (cf. Tomšík, 2000). If we try to identify seasonal periodicity with the aid of statistical filtration, certain administrative interventions may prevail, which are, as a rule, most pronounced at the beginning of a calendar year. Seasonal cleaning hence requires a twelve-month wave (cf. Kozák *et al.*, 2000). This fact may imply that the "administrative" component of the periodic evolution prevails among the real-core seasonal aspects, which are undoubtedly present in the underlying time series.

If we consider the administrative interventions known and (to a certain extent) calculable, another question arises: how should we treat predictions in this "stochastic-administrative mixture" because time series in the area of foreign trade are nothing else but such mixtures. This question is most pressing in instances of one-time, unrepeatable administrative interventions. Are we entitled to make any stochastic predictions at all under such circumstances? Or should they be used anyway, but in a modified way? Or should it be more purposeful to make non-standard predictions? The present contribution is trying to follow this non-standard approach.

## INSTRUMENTATION FOR PREDICTIONS

Any extrapolations require that the time interval on which they are based should be specified and the model be methodologically described. Our extrapolation will be based on a sequence of quarterly values of total exports in the period beginning in 2008. The dependent variable  $y_t$  includes the values of the time variable  $t = 1, 2, \dots, 30$ , where  $t = 1$  corresponds to the 1<sup>st</sup> quarter of 2008. Methodologically, the two solutions described below will be studied: the classical one, treated in Chapter *Traditional span of predictions*, and our original methodology described in Chapter *Fin-shaped prediction span*.

### *Classical predictions*

We will begin with a classical solution: the point predictions are, under the above-described circumstances, defined as an extrapolation of the linear trend and the classical interval predictions are 95% two-sided confidence intervals (cf., e.g. Box *et al.*, 1994 or Mills, 1999). Methodological details are described in Chapter *Traditional span of predictions*.

For classical predictions in the  $y_t$  time series, the following considerations come into question: at a given horizon  $h > 0$  (where  $h$  is a positive integer) a predictor  $\pi$  is constructed between points  $n$  and  $n + h$ ; this predictor is viewed as a statistical estimate of the unknown variable  $y_{n+h}$  to be predicted, complemented with two more predictors,  $\pi_l$  and  $\pi_u$ , fulfilling inequalities  $\pi_l < \pi < \pi_u$ . Here  $\pi$  is called the mean predictor, and  $\pi_l$  and  $\pi_u$  are the lower and upper predictors, respectively. The interval  $(\pi_l, \pi_u)$  is called the span of predictions.



A traditional stochastic span of predictions is usually used, i.e., a symmetric two-sided confidence interval for the mean predictor  $\pi$  with the lower and upper predictors  $[\pi - \Delta \pi, \pi + \Delta \pi]$ . Here  $\Delta$  is a random variable such that probabilistic inequalities  $P[|\pi - y^{(m)}| \leq \Delta] \geq 1 - \alpha$  or  $P[|\pi - y^{(m)}| \leq \Delta] \geq 1 - \alpha$  at a given value of  $\Delta$ , where  $0 < \alpha < 1$  and  $y^{(m)}$  stands for the prognostic model used for the variable to be predicted.

The traditional span of predictions is more or less a mathematical "artefact" in the sense that its probabilistic assumptions are hard to justify. Hence we also encounter proposals of non-traditional spans of predictions, in which the mean value is compared with lower and upper limits, which are based on factual considerations, not on probabilistic ones (cf. Kozák *et al.*, 1999). Let us divide these predictions into pessimistic and optimistic alternatives.

#### *Traditional span of predictions*

In order to describe the behaviour of the process under consideration, we can use a two-parameter linear regression function with positive, monotonously decreasing values of the independent variable. The problem of prediction is now solved in a classical way: the mean predictor is obtained by extrapolation of the deterministic component from the past to the future, and the span of predictions by enveloping the mean predictor with the classical symmetric two-sided confidence interval (cf., e.g. Granger and Newbold, 1986 or Wei, 1990).

We begin with the fact that the dependent variable can be described as

$$y_t = \alpha + \beta x_t + \varepsilon_t, \quad t = 1, 2, \dots, n, \quad (1)$$

where

$$x_t > 0, \quad t = 1, 2, \dots, n, \quad (2)$$

stands for the known decreasing values of the independent variable,  $\alpha$  and  $\beta$  for unknown non-stochastic parameters, and  $\varepsilon_t$  for random perturbations characterized by

$$E(\varepsilon_t) = 0 \quad \text{for } t = 1, 2, \dots, n, \quad (3)$$

$$\begin{aligned} E(\varepsilon_t \varepsilon_s) &= \sigma^2 \quad \text{pro } t = s, & t, s &= 1, 2, \dots, \\ &= 0 \quad \text{for } t \neq s. \end{aligned} \quad (4)$$

The estimates  $a$  and  $b$  of the parameters  $\alpha$  and  $\beta$  respectively are identified with the aid of the least squares method, i.e., using the formulas below:

$$a = y - bx, \quad (5)$$

$$b = \text{cov}(x, y) / \text{var } x = r (\text{var } y / \text{var } x)^{1/2}, \quad (6)$$

where  $r$  is the correlation coefficient between  $y$  and  $x$ .

Estimates of the random perturbations (residuals)

$$e_t = y_t - a - bx_t, \quad t = 1, 2, \dots, n, \quad (7)$$

have, with respect to Formulas (5) and (6), residual variance

$$\text{var } e = (1 - r^2) \text{var } y. \quad (8)$$

The usual coefficient of determination  $R^2 = 1 - \text{var } e / \text{var } y$  is here reduced to  $R^2 = r^2$  (9)

and an unbiased estimate for the variance of random perturbations  $\sigma^2$  has the form

$$s^2 = n(n-2)^{-1} (1 - r^2) \text{var } y. \quad (10)$$

The prediction problem is solved on the basis of the fact that the independent variable's value,

$$x_{n+h} > 0 \text{ for } h = 1, 2, \dots, m, \quad m < n, \quad (11)$$

is known between points  $n$  and  $(n+h)$ . The mean predictor is then

$$\hat{I}(h) = a + bx_{n+h}, \quad (12)$$

where  $a$  and  $b$  stand for the estimates (5) and (6). With respect to the unknown variable  $y_{n+h}$  to be predicted, the error amounts to

$$d(h) = y_{n+h} - \hat{I}(h). \quad (13)$$

If the *ceteris paribus* principle is valid for the variable to be predicted, i.e., if the  $y_{n+h} = y^{(m)}$  prognostic model is considered in relation with the model specified by Formula (1), which describes the past with the following properties:

$$y^{(m)} = \alpha + \beta x_{n+h} + \varepsilon^{(m)}, \quad (14)$$

$$E(\varepsilon^{(m)}) = 0, \quad E[(\varepsilon^{(m)})^2] = \sigma^2, \quad (15)$$

$$E(\varepsilon^{(m)} \varepsilon_t) = 0, \quad t = 1, 2, \dots, n, \quad (16)$$

then the variable under consideration is *ex ante* unbiased,

$$B_m[\pi(h)] = E[d(h)] = 0, \quad (17)$$

and its *ex ante* quadratic risk equals

$$R_m[\pi(h)] = E\{[d(h)]^2\}, \text{ which in its turn equals}$$

$$R_m[\pi(h)] = \sigma^2 C_n(h) \quad (18)$$

while there is

$$C_n = \frac{(n+1)}{n} + \frac{(x_{n+h} - x)^2}{n \cdot \text{var } x}, \quad h = 1, 2, \dots, m. \quad (19)$$

The traditional span of predictions will be determined as follows: when the coefficient of reliability is given as

$$1 \otimes \Delta, \quad 0 < \Delta < 1, \quad (20)$$

the lower variant  $\pi_L(h)$ , and the upper one  $\pi_U(h)$  are calculated:

$$\pi_L(h) = \pi(h) \otimes D(\Delta, h), \quad \pi_U(h) = \pi(h) + D(\Delta, h), \quad (21)$$

where

$$D(\Delta, h) = \mu(\Delta) \{s^2[C_n(h)]\}^{1/2} \quad (22)$$

stands for an admissible error value, and  $\mu(\Delta)$  is a  $(1 \otimes \Delta/2).100\%$  quantile for the Student *t*-distribution with  $(n \otimes 2)$  degrees of freedom. The resulting construction admits the following interpretation: if all the hypotheses on the model are valid (especially, the assumption that the random perturbations have normal distributions and the variable to be predicted complies with its *ceteris paribus* prognostic model), then the variable to be predicted will lie inside the interval  $[\pi_L(h), \pi_U(h)]$  with the probability value equal to  $(1 \otimes \Delta)$ , and outside this interval with the complementary probability value of  $\Delta$ .

*Fin-shaped prediction span*

As we have tried to prove (cf. Kozák and Hindls, 1997), we can follow two non-stochastic alternatives in addition to the probabilistic options (21). Both of them are connected with two more models for the dependent variable

$$y_t = \alpha_p + \beta_p(x_t)^p + \varepsilon_{p,t}, \quad 0 < p < 1, t = 1, 2, \dots, n, \quad (23p)$$

$$y_t = \alpha_{1+q} + \beta_{1+q}(x_t)^{1+q} + \varepsilon_{1+q,t}, \quad 0 < q < 1, t = 1, 2, \dots, n. \quad (23q)$$

Regarding their interpretation with respect to model (1), it is useful to require that all of these three models should have the same deterministic components both at the beginning of the prediction,  $t = n$ , and at the beginning of series,  $t = 1$ . With respect to Formulas (1), (23p), and (23q), it seems reasonable to require that the following boundary conditions should be met:

$$\alpha_p + \beta_p(x_i)^p = \alpha + \beta x_i, \quad 0 < p < 1, \quad i = 1, 2, \dots, n, \quad (24p)$$

$$\alpha_{1+q} + \beta_{1+q}(x_i)^{1+q} = \alpha + \beta x_i, \quad 0 < q < 1, \quad i = 1, 2, \dots, n. \quad (24q)$$

We have estimates (5) and (6) for  $\alpha$  and  $\beta$ ; hence, denoting by  $a_p$ ,  $a_{1+q}$ ,  $b_p$ , and  $b_{1+q}$  the estimates for  $\alpha_p$ ,  $\alpha_{1+q}$ ,  $\beta_p$ , and  $\beta_{1+q}$  (respectively), we can calculate them with the aid of the following Formulas

$$a_p + b_p(x_1)^p = K_1, \quad a_p + b_p(x_n)^p = K_n, \quad (25p)$$

$$a_{1+q} + b_{1+q}(x_1)^{1+q} = K_1, \quad a_{1+q} + b_{1+q}(x_n)^{1+q} = K_n \quad (25q)$$

where

$$K_1 = a + bx_1, \quad K_n = a + bx_n. \quad (26)$$

In other words, the equality

$$a_p = a + b [x_1(x_n)^p \odot x_n(x_1)^p] / [(x_n)^p \odot (x_1)^p] \quad (27p)$$

is valid and there is

$$b_p = b (x_n \odot x_1) / [(x_n)^p \odot (x_1)^p]. \quad (28p)$$

Analogically,

$$a_{1+q} = a + b [x_1(x_n)^{1+q} \odot x_n(x_1)^{1+q}] / [(x_n)^{1+q} \odot (x_1)^{1+q}] \quad (27q)$$

and there is

$$b_{1+q} = b (x_n \otimes x_1) / [(x_n)^{1+q} \otimes (x_1)^{1+q}]. \quad (28p)$$

Models (23p) and (23q) provide alternative predictions

$$\pi_p(h) = a_p + b_p (x_{n+h})^p, \quad 0 < p < 1, \quad (29p)$$

$$\pi_{1+q}(h) = a_{1+q} + b_{1+q} (x_{n+h})^{1+q}, \quad 0 < q < 1, \quad (29q)$$

and the goal is to compare those with the mean variant (12), related to the original model (1). It can be proven that they fulfil the following inequalities:

$$\pi_p(h) < \pi(h) < \pi_{1+q}(h) \text{ or } \pi_{1+q}(h) < \pi(h) < \pi_p(h); \quad (30)$$

hence the lower and upper predictions

$$\pi_p(h) \text{ at } 0 < p < 1, \text{ and } \pi_{1+q}(h) \text{ at } 0 < q < 1 \quad (31)$$

can, as related to the mean variant  $\pi(h)$ , be viewed as the limits of a non-traditional span of predictions, called a "fin-shaped" span. Of course, selection of the constants  $p$  and  $q$  is decisive for this construction.

This approach provides us with a relatively narrow non-stochastic prediction interval, which is suitable for short-time predictions in the underlying economic time series.

## FIN-SHAPED SPAN OF PREDICTIONS FOR TIME SERIES IN THE AREA OF FOREIGN TRADE

We are now going to illustrate our procedure in constructing a fin-shaped span of predictions for time series of total exports from the Czech Republic. In line with the introductory remarks, we will extrapolate the quarterly values of exports from the 1<sup>st</sup> quarter of 2008 until the 2<sup>nd</sup> quarter of 2015. That is,  $t = 1, 2, \dots, 30$ , where  $t = 1$  corresponds to the 1<sup>st</sup> quarter of 2008, and  $t = 30$  to the 2<sup>nd</sup> quarter of 2015.

We will derive the fin-shaped predictions for the 3<sup>rd</sup> and 4<sup>th</sup> quarters of 2015 and compare them with the actual values, which were already officially known at the time this paper was written. The considered time series is taken over from the National Accounts of the Czech Republic and it is seasonally cleaned (which is a necessary condition for applying a fin-shaped prediction); it is given in current prices.

In Table 1 we provide the values for periods from Q1/2008 to Q2/2015, and (in parentheses) the known values for Q3/2015 and Q4/2015 (highlighted in grey). However, we will try and predict these two last mentioned values with the FIN model – that is why they are shown in parentheses. Subsequently, we will assess the predictions' accuracy with the aid of these actual data values.

The first step is to identify the values of the  $p$  and  $q$  parameters. They are selected so that the curves connecting the  $Y_t^H$  values (corresponding to  $p$ ) and  $Y_t^D$  values (corresponding to  $q$ ) make up a "fin" covering a substantial proportion of the  $Y_t$  actual values. We set  $p = 0.5$  and  $q = 0.98$ . Other values, close to the chosen ones, would also be possible; we can easily verify this possibility by experimenting. The parameter values according to Formulas (5), (6), (27p), (27q), (28p), and (28q) are:  $a = 544,374.074$ ;  $b = 12,215.193$ ;  $a_p = 477,468.705$ ;  $b_p = 79,120.561$ ;  $a_{1+q} = 556,167.458$ , and finally  $b_{1+q} = 421.808$ . The calculations and results are shown in Table 2.

Year		Exports	Year		Exports
2008	Q1	658,268	2012	Q1	786,838
	Q2	615,748		Q2	769,974
	Q3	629,451		Q3	781,073
	Q4	596,199		Q4	759,264
2009	Q1	573,106	2013	Q1	756,826
	Q2	590,995		Q2	778,530
	Q3	576,884		Q3	790,681
	Q4	601,961		Q4	824,525
2010	Q1	607,363	2014	Q1	884,222
	Q2	645,657		Q2	882,664
	Q3	673,630		Q3	895,581
	Q4	684,508		Q4	909,665
2011	Q1	705,616	2015	Q1	928,947
	Q2	706,868		Q2	933,418
	Q3	725,755		(Q3)	(938,529)
	Q4	737,070		(Q4)	(944,051)

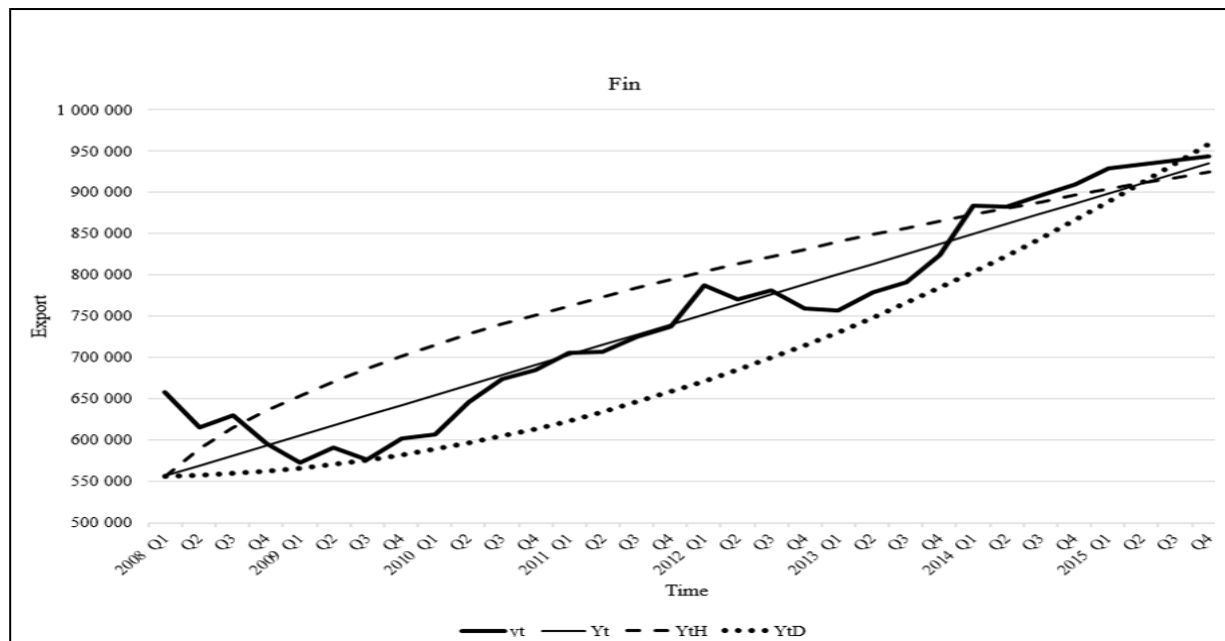
Table 1. *Exports of goods and services from the Czech Republic, in million CZK, current prices, seasonally cleaned data*

$t$	$y_t$	$y_t$	$Y_t^H$	$Y_t^D$	$Y_t^H \ominus Y_t^D$	Year
1	658,268	556,589	556,589	556,589	0	2008 Q1
2	615,748	568,804	589,362	557,831	31,531	Q2
3	629,451	581,020	614,510	559,881	54,628	Q3
4	596,199	593,235	635,710	562,732	72,978	Q4
5	573,106	605,450	654,388	566,379	88,009	2009 Q1
6	590,995	617,665	671,274	570,818	100,456	Q2
7	576,884	629,880	686,802	576,047	110,755	Q3
8	601,961	642,096	701,255	582,063	119,192	Q4
9	607,363	654,311	714,830	588,865	125,965	2010 Q1
10	645,657	666,526	727,670	596,450	131,220	Q2
11	673,630	678,741	739,882	604,816	135,066	Q3
12	684,508	690,956	751,550	613,963	137,587	Q4
13	705,616	703,172	762,742	623,888	138,854	2011 Q1
14	706,868	715,387	773,511	634,591	138,919	Q2
15	725,755	727,602	783,901	646,071	137,831	Q3
16	737,070	739,817	793,951	658,326	135,625	Q4
17	786,838	752,032	803,691	671,355	132,337	2012 Q1
18	769,974	764,248	813,149	685,157	127,992	Q2
19	781,073	776,463	822,347	699,732	122,615	Q3
20	759,264	788,678	831,307	715,079	116,228	Q4
21	756,826	800,893	840,045	731,196	108,849	2013 Q1
22	778,530	813,108	848,577	748,084	100,493	Q2
23	790,681	825,324	856,918	765,741	91,177	Q3
24	824,525	837,539	865,079	784,167	80,912	Q4
25	884,222	849,754	873,072	803,361	69,711	2014 Q1
26	882,664	861,969	880,906	823,322	57,584	Q2
27	895,581	874,184	888,591	844,050	44,541	Q3
28	909,665	886,399	896,135	865,544	30,591	Q4
29	928,947	898,615	903,546	887,805	15,741	2015 Q1
30	933,418	910,830	910,830	910,830	0	Q2
(31)	(938,529)	(923,045)	(917,993)	(934,620)	(-16,626)	(Q3)
(32)	(944,051)	(935,260)	(925,042)	(959,174)	(-34,132)	(Q4)

Table 2. *Calculations*

In Table 2, showing calculations, we can see the actual values  $y_t$  of total exports, determined by the trend line  $Y_t$  and the upper  $Y_t^H$ , and lower  $Y_t^D$  limits of the fin, including the difference between these limits. The actual and predicted values for Q3/2015 and Q4/2015 are again highlighted in grey. The  $(Y_t^H \ominus Y_t^D)$  difference equals the width of the desired non-stochastic fin-shaped span of predictions. The prediction of total exports for Q3/2015 lies in the interval (917,993; 934,620), and for Q4/2015 in (925,042; 959,174). The absolute value of the non-stochastic span of predictions is 16,626 or 34,132 million CZK, respectively.

Figure 1 below shows the graphical shape of the results, including the fin shape.



From the results summarized in Table 2 and Figure 1, we can see that a prediction of the total exports from the Czech Republic was very accurately estimated for the 4<sup>th</sup> quarter of 2015 (i.e., at time  $t = 32$ ) and with a small error for the 3<sup>rd</sup> quarter of 2015 (i.e., at time  $t = 31$ ).

The percentage error of this non-stochastic span of predictions does not exceed a value of approx. 1.5%, which can be considered an accurate estimate for the prediction of the exports.

## CONCLUSIONS

The paper brings an original method for the construction of non-stochastic prediction of the time series. Its advantage is that the choice of parameters  $p$ ,  $q$  can be transferred directly past behaviour of economic indicators in forecasting interval. Thus combining two concepts - models with constant parameters and models with changing parameters. Application of this method is especially suitable for processes that are not burdened by interventions into the character of the time series.

There are open questions and topics for future work connected with the concept of the non-stochastic fin-shaped predictions. The key issue is that of selecting the  $p$  and  $q$  parameters, and there are two basic options for resolving this issue. The first is to choose these parameters so that most of the empirical values lie between the created polynomial trend curves. Of course, the more variable the actual values of the analysed time series, the wider the area between the polynomial trends (which make up a shape of a "fish", as can be seen in Figure 1), and vice versa. For the fin-shaped predictions the situation is similar.



Let us once more point out that the time series under consideration must have been seasonally cleaned in advance. Otherwise the "fish" is unable to cover the values of the time series (the seasonal fluctuations quickly get out of the fish area).

Another option for choosing the  $p$  and  $q$  parameters would be to use a pseudo-prediction method. That is, the time series can be shortened by, say, two values, a fin-shaped prediction applied, and the obtained predicted values compared with the known two values ("kept secret" when constructing the fin). Then the classical Theil index of discrepancy comes into play. From a computational point of view this means that all real combinations of the  $p$  and  $q$  parameters should be gone through. Since there are infinitely many such combinations, the search for these parameters must be reduced with the aid of the above-described procedure – this fish body visualisation. For admissible pairs of  $p$  and  $q$  parameters (substantially fewer) the Theil index values will be calculated and on the basis of these values the most suitable variant of the parameters will be determined.

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# HOW DO EMPLOYEES' ATTITUDES AND BEHAVIORS AFFECT ORGANIZATIONAL PERFORMANCE: EXAMINING THE CRUCIAL ROLE OF HRM IN THE EURO-MEDITERRANEAN REGION

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## ABSTRACT

Organizations are seeking to understand how their human resources can be better utilized and managed in order to gain competitive advantage, thereby enhancing organizational performance. The importance of understanding and managing human resources has never been greater than it is today. Moreover, as organizations strive to survive during the current economic crisis, they must intensify their efforts to adopt HRM Systems (practices and policies) that will help them to achieve their aims. Reflecting on existing literature, and by adopting a quantitative methodology, the present study theoretically develops and empirically tests a conceptual model that describes how the perceived HRM system is likely to have an impact on Employees' Attitudes and Behaviors. Specifically, the mediating role of human capital, employee commitment, and employee performance are investigated within the distinct setting of higher education in the Euro Mediterranean Region. Findings, of interest to stakeholders, provide an in-depth holistic perspective of the mediating elements and mechanisms that define the impact of the perceived HRM system on organizational performance. Furthermore, implications for managers on how human resources can be more effectively managed and research directions for scholars are presented.

**Keywords:** *HRM; Employees' Attitudes and Behaviors; Organizational Performance; Higher Education; Euro-Mediterranean Region.*

## INTRODUCTION

The current economic crisis "has made life particularly difficult for those involved in crafting business strategy and who must make difficult decisions affecting all sizes of businesses and the people who work within them" (Worrall and Cooper, 2012: 8). Based on current research evidence in businesses, it is becoming increasingly clear that the HRM system is one important component that can help an organization become more effective and achieve competitive advantage (Guest, 2011; Wright and McMahan, 2011; Wright and Nishii, 2012). Academics and scholars have devoted a great deal of

attention to examining the linkage between HRM practices and organizational performance (*see for example*, Boxall et al., 2011; Jiang et al., 2012; Wright and Nishii, 2012; Zhou et al., 2013).

Higher education institutions, like any other organization nowadays, are under increasing pressure to improve their competitiveness (Bui and Baruch, 2011). They exist in a rapidly changing environment and therefore university strategies must reflect the need to be able to adapt to constantly changing circumstances (Shattock, 2012). Major changes in higher education during the last decade, especially in European universities, have significantly altered and shaped the activities of higher education institutions. These changes have created pressures not only for changes in the internal structure of universities, but also more general changes including a reassessment of the role of universities in the society (Deem et al., 2007). As Smeenk et al. (2008) described, these changes have forced universities all over Europe to replace their “professional” strategies, structures and values with organizational (business) characteristics that could be labeled as “private sector” features.

Nevertheless, today there is a lack of understanding on how HRM can contribute and support institutions of higher education to adopt and manage effectively these changes; moreover, how IHE’s can realize the importance of the major variables and underlying mechanisms through which HRM influences performance in their institutions (Guest and Clinton, 2007).

Prior research in the business environment suggests that HRM systems can lead to competitive advantage (Allen and Wright, 2006; Becker and Huselid, 1998; Wright et al., 2001), whereas numerous studies have demonstrated relationships between different bundles of HRM practices or philosophies and organizational performance (Delery and Doty, 1996; Huselid, 1995; MacDuffie, 1995; Wright et al., 2005). Despite the fact that recent studies unequivocally assert the relationship between HRM practices and outcomes what is absent from the literature is research aimed at explaining the processes by which the perceived systems of human resource practices affect organizational outcomes (Boselie et al., 2005; Jiang et al., 2012; Paauwe, 2009; Wright and Haggerty, 2005).

This study aims to holistically investigate this gap by examining the role of employees’ attitudes and behaviors, and further enhance our collective understanding of the issue that a number of scholars have eloquently called the “black box” problem of HRM (Becker and Gerhart, 1996; Boselie et al., 2005; Boxall et al., 2011; Gong et al., 2009; Guest, 2011; Paauwe, 2009; Purcell et al., 2003; Wright and Gardner, 2004; Wright and Nishii, 2012).

## **THEORETICAL FRAMEWORK**

### ***The Resource Based View (RBV)***

The theoretical basis and explanatory framework for linking HRM practices, human capital and organizational performance is the resource-based view of the firm, which supports the development of a

winning edge through investment in people (Boxall and Purcell, 2008). According to Barney (1991), organizations develop sustained competitive advantage by creating value in a way that is rare and hard to imitate. In order for the resources to provide a sustained competitive advantage, four criteria must exist; it must add value, be rare, be inimitable, and it cannot be substituted. SHRM theorists propose a resource-based argument that is centred on how HRM practices form a sustainable competitive advantage for organizations (Becker et al., 1997; Boselie et al., 2005). They also argue that an HRM system is an "invisible asset" creating value as it is so embedded in the organization that it enhances the firm's capabilities. According to these theorists, the HRM system is path-dependent in that policies and programmes are developed over time and cannot be purchased "over the counter" by the competition, thus making it difficult to mimic (Becker and Gerhart, 1996).

This view places emphasis on an organization's internal resources (Barney, 1991) and its investment in human capital. It maintains that through progressive human resource practices, organization specific capabilities - core or distinctive competencies - (Hamel and Prahalad, 1994) are developed by building knowledge and assets, thereby creating and sustaining a competitive advantage (Colbert, 2004; Wright and McMahan, 1992). By investing in (organizational learning ability, Yao 2013) and implementing (strategic implementation capacity, Wu 2013) programs that develop and motivate people, organizations create their competitive advantage through people (Colbert, 2004; Wright and McMahan, 1992). Therefore, as Boxall and Purcell (2008) note, "...under the RBV, the organization's distinctive HR advantage (HRA) is a combination of appropriately talented people (Human Capital Asset or HCA) and the way they work together (Organizational Process Advantage or OPA)". Moreover, Lepak and Snell (2007) argue that organizations need a commitment-oriented HRM system for employees whose skills are critical to an organization's core or distinctive capabilities.

### *The Social Exchange Theory (SET)*

Social exchange theory focuses on the motivational component of employee-organisation relationships and provides insights regarding the implications of the fit between the expected inducements and contributions provided in an employee-employer exchange (Tsui et al., 1997). Specifically, social exchange theorists (e.g., Gouldner, 1960) examine the exchanges that occur between employers and employees regarding perceptions of reciprocity at an individual level of analysis. The essence of social exchange theory is the notion of a norm of reciprocity that develops, which makes employees feel obligated to respond equitably to treatments from others (including one's employer).

Any fit to firm strategy must first consider the type of employee behaviors required to successfully execute the strategy, and the type of skill necessary to exhibit those behaviors (Allen and Wright, 2006). The motivational processes of social exchange theory and the norm of reciprocity (Blau, 1964; Molm et

al., 2007) may explain the relationships among human resource practices and employee outcomes (Eisenberger et al., 1990; Setton et al., 1996; Wayne et al., 1997). A well-established stream of research rooted in social exchange theory has shown that employee commitment to the organization derives from their perceptions of their employer's commitment to and support of them (Eisenberger et al., 1990; Cropanzano and Mitchell, 2005; Setton et al., 1996). The research suggests that employees interpret organizational actions such as human resource practices (Rhodes and Eisenberger, 2002; Setton et al., 1996; Wayne et al., 1997) and the trustworthiness of management (Aryee et al., 2002; Eisenberger et al., 1990; Setton et al., 1996) as indicative of the personified organization's commitment to them. They then reciprocate their commitment accordingly.

### *Integrating the Resource Based View and the Social Exchange Theory*

While researchers have increasingly investigated the impact of HRM on economic success with the resource based view of the firm (eg., Barney and Wright, 1998) and have developed more middle level theories regarding the processes through which HRM impacts firm performance (Boselie and Paauwe, 2000; Takeuchi et al., 2007), much work still needs to be done (Guest, 2011; Jiang et al., 2012; Wright and Haggerty, 2005; Wright and Nishii, 2012). As the discussion in the previous section suggests, there appears to be a disconnection in the understanding of the relationship and mechanism between HRM, human capital and performance or/and HRM, employees' attitudes and behaviors and performance.

One of the reasons that this is the case may be due to the relative emphasis placed by the resource-based view of the firm on human capital and the emphasis placed on employee attitudes and behaviors by the behavioral perspective without considering these perspectives simultaneously. In both of these perspectives, employee behavior is the key mechanism that promotes high performance as a result of HRM practices. Thus, by integrating both perspectives and simultaneously looking at human capital and employee attitudes and behaviors (commitment) as important components of performance, a better understanding of how HRM systems lead to organizational performance can be gained. Such HRM systems are generally found in high performance work environments (Becker et al., 2001; Den Hartog and Verburg, 2004; Macky and Boxall, 2007), they reflect a strategic focus and promote the organization's commitment to its employees (Whitener, 2001). By integrating the social exchange theory and the resource-based view, a mediating model is proposed in which the perceived system of HRM practices is linked to organizational performance through human capital, employee commitment and employee performance in sequence.

The focus of this research was driven by the need to fully understand the relationship between a perceived system of HRM practices and organizational performance, by taking into consideration

employees' attitudes and behaviors as the mediating variables. More specific, how the perceived system of HRM practices impacts human capital and employee commitment (within a fully specified system of mediating mechanisms), including the nature of their mediating role. Reflecting on the recent literature on SHRM, RBV and SET, as explained above, the proposed model (see Figure 1) provides an integrated framework that can shed light on the mediating variables and mechanism through which the perceived system of HRM practices impacts organizational performance.

Furthermore, the proposed model provides a framework for understanding the potential performance implications of an organization's human capital and employee commitment. The system of HRM practices is the primary way to influence employees' attitudes and behaviors, namely the level of human capital that organisations possess and employee commitment that are exhibited for the organizations as depicted in the following five hypotheses.

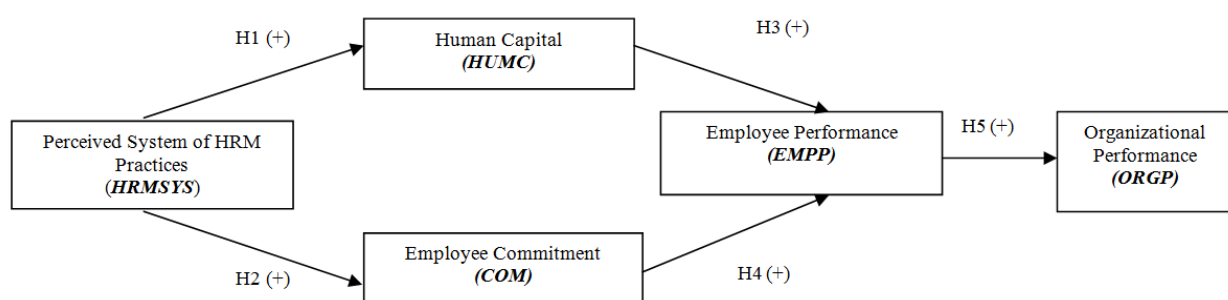
*Hypothesis 1: There is a positive relationship between the perceived system of HRM practices (HRMSYS) and the level of human capital (HUMC).*

*Hypothesis 2: There is a positive relationship between the perceived system of HRM practices (HRMSYS) and employee commitment (COM).*

*Hypothesis 3: There is a positive relationship between the level of human capital (HUMC) and employees' performance (EMPP).*

*Hypothesis 4: There is a positive relationship between employees' commitment (COM) and employees' performance (EMPP).*

*Hypothesis 5: There is a positive relationship between employees' performance (EMPP) and organizational performance (ORGP).*



**Figure 1: The Proposed Conceptual Model**

## RESEARCH DESIGN

### *Research setting and sample*

Cyprus' accession to the EU reiterated the need for organizations to recognize the critical importance of managing human resources as a strategic element of their operations. However, the alleged advantageous outcomes of strategic HRM practices and systems have not been fully realized by Cypriot organizations (Costea-Stavrou, 2002, 2005; Hoppas and Ellinas, 2004). Indicative is the fact that a scan of relevant literature reveals that only a handful of studies have investigated HRM in Cyprus and none has ever explored the causal relationship of HRM systems/practices and organization performance. The apparent underutilisation of related theories and the scarcity of empirical investigations in the Cyprus-specific environment provided the impetus for this research endeavour.

By adopting a quantitative methodology, a survey was developed and administered to all administrative employees (approximate number 750) currently working at the country's university-level institutions, the main focus of the study. For practical purposes, the questionnaire was initially developed in English and then translated into Greek language with the assistance of a linguist. Back translation was finally applied in order to ensure the conceptual clarity and enhance the validity and reliability of the research tool. Prior to administration the surveys were tested for reliability (test-retest method), and content validity (panel of experts). Questionnaires were distributed to all 750 administrative employees working in the five participating universities, out of which 321 were deemed appropriate for further analysis, thus yielding an effective response rate of 43%.

### *Measures*

The perceived system of HRM practices was measured using twenty items (the initial construct consisted of twenty-nine items). The items for consideration were derived from studies conducted by Lepak and Snell (2002); Macky and Boxall, (2007); Boselie (2010); and Kehoe and Wright (2013). The twenty items were measured using a six-point interval scale ranging from "strongly disagree" (1) to "strongly agree" (6). Cronbach's alpha for the measures of the five HRM practices ranged between 0.75 and 0.94.

Administrative employees assessed the level of human capital that each university possesses, using four items from Youndt and Snell (2004) intellectual capital scale. This construct captures the level of human capital. This is not a measure of individual knowledge, skills and abilities, but a measure of the overall knowledge, skills and abilities of the university administrative employees. This construct was measured by asking respondents to assess the quality of the university's administrative

employees relative to that of its competing universities in Cyprus for the overall knowledge, skills and ability, job related skills and educational level. Respondents indicated their perceptions for this practice on six-point Likert-type scales ("1 = strongly disagree" to "6 = strongly agree"). An example item asking the employee to assess the level of human capital is "The employees working in this university are highly skilled". Cronbach's alpha estimate for internal reliability was 0.88.

Affective commitment was measured using four items from Wayne et al. (1997), Meyer et al. (1993) and Allen and Meyer (1990). This construct, in the same vein as human capital, is a measure of the overall employee commitment to the university. Respondents indicated their agreement from "1 = strongly disagree" to "6 = strongly agree." Examples items are: "I would be happy to spend the rest of my career with this university"; "I find my values and the university's values very similar". Cronbach's alpha estimate for internal reliability was 0.91.

Three items of perceived employee performance from Way (2002) and Williams and Anderson (1991) were used to measure this construct. Perceived employee performance was used rather than any other objective measure of performance, i.e., customers served per employee, which is a widely used measure of performance/productivity, due to the difficulty of collecting such objective measure at the university-level education. The first item is: "Our employees' performance/productivity is higher than those of other universities" with two additional items developed for the study ("Our employees perform/produce outputs in an efficient manner," and "Our employees' productive power is higher than those of other universities"). This construct, again, is a measure of the overall employee performance. The resulting three-item scale had a reliability of 0.88.

The organizational performance construct was measured using a subjective assessment of the university's performance relatively to other universities in Cyprus. This approach was utilized because the university's ability to generate superior performance relatively to its competitors is viewed as most relevant, rather than financial measures of performance. The organizational performance construct for the current study consists of eight items using a five-point interval-type scale measuring performance, quality of service and programs (service quality), development of new services and programs, ability to attract essential employees, ability to retain essential employees, satisfaction of customers or clients, relations between management and other employees, relations among employees in general, profitability, innovation, and productivity.

Administrative employees were asked to rate their University's performance in relation to other universities in Cyprus over the past three years. This scale was based on similar scales developed by Delaney and Huselid (1996) and Youndt et al. (1996) for measuring organizational performance, but minor modifications were made to some items and additional items were developed especially for university performance. An example item is "Compare your university to other universities in Cyprus



over the past three (3) years, how would you rate the (quality of services and programs) of your university? Cronbach's alpha estimate for internal reliability was 0.89.

### *Data analysis*

Structural Equation Modeling (SEM), a flexible and powerful tool that combines aspects of both multiple regression and factor analysis (Hair et al., 2010) was utilized to analyse the data and address the postulated hypotheses in a holistic manner. The AMOS software program with the maximum likelihood estimation (MLE), SEM's most widely used estimation method, has been utilized in the analysis.

## **RESULTS**

Prior to the evaluation of the construct validity of the overall measurement model, the construct validity of the second order factor (HRMSYS Construct – Perceived System of HRM Practices) was examined. The second order factor consisted of five first order factors, namely, (1) Employee Selection (Fes), (2) Employee Training and Development (Fetd), (3) Performance Management (Fpm), (4) Compensation and Incentives (Fci), and (5) Employee Involvement and Participation (Feip). The model yielded a  $\chi^2$  value of 395,095 with 162 degrees of freedom ( $p=0.000$ ). In response to chi-square's in-built limitations, the CMIN/DF ( $\chi^2$  divided by the degrees of freedom) computed was satisfactory (2.438) since values less than 3 indicate an acceptable fit (Tabachnick and Fidell, 2007). In terms of additional fit statistics, the model yielded a Root Mean Square Error of Approximation (RMSEA) of (.067) (below the acceptable threshold of .07, as suggested by Steiger, 2007), with a lower boundary of a two-sided 90% confidence interval for the population of (.058) and an upper boundary of (.075). Moreover, the model produced a CFI (Comparative Fit Index) score of .948, and an IFI (Incremental Fit Index) score of (.949); both of which fall within the ideal ranges ( $>.90$ ) for acceptable fit (Hair et al., 2010). Parsimonious fit indices such as PRATIO (.852) and PCFI (.809) (Mulaik et al., 1989) and convergent and discriminant validity scores (eg., Factor Loadings, Average Variance Extracted, Construct Reliability, Interconstruct Correlations, and Squared Interconstruct Correlations) also support the acceptability of the model.

Following the development and acceptability of HRMSYM, as a second order factor, goodness-of-fit measures were utilized to evaluate the overall model. The model yielded a  $\chi^2$  value of 1634,778 with 684 degrees of freedom ( $p=0.000$ ) and an acceptable CMIN/DF of 2.390. The Root Mean Square Error of Approximation (RMSEA) yielded a score of (.066) with a lower boundary of a two-sided 90% confidence interval for the population of (.062) and an upper boundary of (.070). Moreover, a CFI (Comparative Fit Index) score of .901, an IFI (Incremental Fit Index) score .901 and parsimonious fit

indices such as PRATIO (.919) and PCFI (.828) also support the acceptable fit of the model. It is important to note that according to Hair et al. (2010) in models with more than 250 observations and 30 or more observed variables, clearly the case in this study, a CFI above .900 in conjunction with an RMSEA of less than .070 suggest an acceptable fit.

The models convergent validity qualities were also evaluated. As exhibited in Table 1, all factor loadings exceeded the minimum acceptable of 0.700, the model's average variance extracted (AVE) was way above the .500 threshold, and all construct reliability values fall within acceptable ranges ( $>.70$ ). In particular, the final model yielded an AVE of 0.66, and reliability scores ranging from 0.88 to 0.92. Finally, the discriminant validity of the final model was also verified since AVE scores for each factor exceed their respective squared interconstruct correlation (SIC) score for both the factor itself and all the remaining factors (See Table 1).

	HRMSYS*	HUMC	COM	EMPP	ORGP	Item Reliabilities or Squared Factor Loadings (communalities)	Eigenvalue	Delta (standardized error variance)
Feip	0.777					0.604		0.396
Fci	0.877					0.769		0.231
Fpm	0.859					0.738		0.262
Fetd	0.748					0.560		0.440
Fes	0.937					0.878	3.548	0.122
HUMC1		0.770				0.593		0.407
HUMC2		0.828				0.686		0.314
HUMC3		0.857				0.734		0.266
HUMC4		0.735				0.540	2.553	0.460
COM1			0.868			0.753		0.247
COM2			0.859			0.738		0.262
COM3			0.866			0.750		0.250
COM4			0.786			0.618	2.859	0.382
EMPP1				0.864		0.746		0.254
EMPP2				0.745		0.555		0.445
EMPP3				0.919		0.845	2.146	0.155
ORGP1					0.745	0.555		0.445
ORGP2					0.703	0.494		0.506
ORGP3					0.712	0.507		0.493
ORGP4					0.684	0.468		0.532
ORGP5					0.778	0.605		0.395
ORGP6					0.678	0.460		0.540
ORGP7					0.667	0.445		0.555
ORGP8					0.753	0.567	4.101	0.433
Average Variance Extracted	70.96%	63.83%	71.48%	71.54%	51.26%			
Construct Reliability	92.39%	87.55%	90.92%	88.21%	89.35%			

**Notes:** Model's Average Variance Extracted (AVE) = 0.66; \* HRMSYS = Second Order Factor

**Table 1: Convergent Validity of the Overall Model**

Standardized path coefficients and the significance of the hypothesized relationships were utilized to test the postulated hypotheses in a causal diagrammatic form. Findings revealed a significant positive association between the perceived system of HRM practices (HRMSYS) and the level of human capital (standardized path coefficient  $\beta = .712$ ;  $t = 11.277$ ,  $p < 0.001$ ), thus leading to the acceptance of H1. Similarly, H2 can also be supported since findings revealed a positive relationship between the perceived system of HRM practices and employee commitment (standardized path coefficient  $\beta = .593$ ;  $t = 10.123$ ,  $p < 0.001$ ). Moreover, Hypotheses 3 and 4 can be supported since findings revealed that the level of human capital has a significant positive effect on employee performance (standardized path coefficient  $\beta = .507$ ;  $t = 8.055$ ,  $p < 0.001$ ), whereas employee commitment is also positively associated with employee performance (standardized path coefficient  $\beta = .209$ ;  $t = 3.701$ ,  $p < 0.001$ ). Finally, Hypothesis 5, which posited that employee performance has a positive impact on organizational performance, can also be supported (standardized path coefficient  $\beta = .676$ ;  $t = 10.610$ ,  $p < 0.001$ ). Overall, the analysis, exhibited in Table 2, revealed that all five postulated hypotheses can be supported.

Hypotheses	Standardized coefficient	path	t-value	Results
H1: HRMSYS $\rightarrow$ (+) HUMC	.712		11.277**	Accepted
H2: HRMSYS $\rightarrow$ (+) COM	.593		10.123**	Accepted
H3: HUMC $\rightarrow$ (+) EMPP	.507		8.055**	Accepted
H4: COM $\rightarrow$ (+) EMPP	.209		3.701**	Accepted
H5: EMPP $\rightarrow$ (+) ORGP	.676		10.610**	Accepted

**Note:** HRMSYS=Perceived System of HRM Practices; HUMC=Human Capital; COM=Employee Commitment; EMPP=Employee Performance; ORGP=Organizational Performance

\*Significant at  $p < 0.05$ ; \*\*Significant at  $p < 0.01$

**Table 2: Summary of Hypotheses and Results**

### *Mediation analysis*

The above findings led to further investigation with the utilization of mediation analysis. Mediation refers to a situation that includes three or more variables, such that there is a causal process between them (Preacher and Hayes, 2008). The mediation relationship as applied in the context of the current analysis describes a direct effect between an independent variable (e.g., system of HRM practices) and the dependent variable (e.g., organizational performance). There might also be indirect effects between the independent variable and the mediating variables (human capital and employee commitment), and between the mediating variables and the dependent variable. The degree to which

the direct effect changes as a result of including the mediating variables is referred to as the mediational effect (MacKinnon et al., 2002; Preacher and Hayes, 2008).

The empirical model developed has multiple mediations meaning that there are several putative mediators to account for the relationship between the system of HRM practices and organizational performance. Specifically, HRMSYS has a direct relation with ORGP (HRMSYS → ORGP) and two indirect (mediated) relations through COM (HRMSYS → COM → ORGP) and HUMC (HRMSYS → HUMC → ORGP) respectively. In cases of multiple mediations it is advised (Preacher & Hayes, 2008) that all the mediations are tested using a single multiple mediation model. The methodology involves two distinct models. First a model is developed including only the direct relationship of HRMSYS to ORGP, whereas a second model includes all the indirect relationships and the direct one. In particular, Model 1 investigates whether the regression weight of the direct relationship is statistically significant, whereas Model 2 investigates if the direct and indirect effects are statistically significant (See Table 3).

Direct effect w/o Med (Model 1)	Direct effect with Med (Model 2)	Indirect effects (Model 2)	Mediation Type Observed
0,138 (***)	0,273 (0,002)	0,322 (0,002)	Partial

**Note:** Model comparison suggests that Model 2 has a better fit than Model 1. (Inside the parentheses in the significance level computed from AMOS).

$$\Delta^2/\Delta() = 287.032 (2), \leq 0.05$$

**Table 3: Mediation Results from Model 1 and 2 concerning direct and indirect effects**

Findings, exhibited as Table 3, suggest that Model 2 has a better fit than Model 1. In simple terms the findings suggest that the perceived system of HRM practices has both direct and indirect effects (through employee commitment) on organizational performance. The empirical finding is compatible with the recent literature (Ng and Feldman, 2010) where it is supported that the level of human capital is considered as very important in the relationship between the HRM practices and organisational performance. However, as it was empirically extracted in the results, its relation to organizational performance is not direct, but rather affects employee commitment which in turn impacts employee and organizational performance.

## CONCLUSION AND DISCUSSION

### *Implications for theory and research*

This study contributes to the extant body of the relevant literature in a number of ways and has important implications for further theory building. Firstly, it looks at the performance effects of the perceived system of HRM practices in relation to human capital and employee commitment drawing

on two influential but distinct theories, the RBV and SET, by integrating them in a holistic conceptual model for the first time in the university-level education environment. This, along with the evidence provided from the results of the current study (that the level of human capital and employee commitment relate to employee and university performance), contribute to the better understanding of the mediating mechanisms linking HRM and university performance and shows the value of thinking across theoretical boundaries.

Secondly, the findings of the study highlight the importance of the perceived system of HRM practices and its multi-dimensional nature. Although in other studies in the literature, this construct was operationalized as a separate uni-dimensional construct, in the current study, the perceived system of HRM practices was conceptualized and treated as a multi-dimensional construct. Moreover, the multi-dimensional construct of the perceived system of HRM practices was subject to model testing using structural equation modelling analysis among administrative employees in university-level education setting to test its interrelated and extrapolated nature.

A third contribution is that the final model and the path coefficients using the structural equation model showed that there were a number of causal indicators which are theoretically acceptable. The variable path relationships between the latent and observed variables were examined as hypothesized. The model path relationships indicated that the perceived system of HRM practices scale is fully operationalized for examining the perceived system of HRM practices in higher education institutions.

Finally, the results of this study contribute to the literature on strategic human resource management, employees' attitudes and behaviors, and higher education by opening up the "black box". This has facilitated the explication of the mediating variables associated with the system of HRM practices and performance, namely human capital and employee commitment. In addition, the current study demonstrates the important role that employee commitment holds and enacts in the mechanism that links the perceived system of HRM practices and organizational performance and provides important implications for HRM researchers, university managers, and other HRM practitioners.

### *Implications for practice*

Besides the scholarly contributions, the current research also has important practical implications. The managerial relevance of this research study rests in providing the university HRM professional services with information about how to configure a coherent and consistent system of HRM practices and to link this system with their unique context in order to increase performance. Moreover, the findings of this study provide recommendations about what factors are important, at an initial stage, for achieving a fit between the practices within the HRM system and subsequently, for determining

the factors that are important in achieving a higher level of human capital and in enhancing employee commitment.

A second contribution, pertinent to managers, is extracted from the empirical finding showing that employee commitment is an important driver for both employee and university performance. As employee commitment has significant effects on employee and organizational performance, managers should be alerted to the potential bottom line implications of highly committed university administrative/professional departments. Managers need to recognize that committed employees have a value beyond their immediate and individual performance as these individuals may contribute to the overall departmental level performance; thus a practical recommendation that stems from this research is that managers may use different interventions such as channeling the behaviors of committed employees towards filling gaps in the delivery of service, encouraging synergy between employees and emphasising the achievement of department-level performance targets (Conway and Briner, 2012).

Third, the current research also offers several suggestions for managers to increase the performance of their employees. This could be achieved by ensuring that their employees perceive the system of HRM practices as beneficial by constantly sending signals - internal communication strategy - that employees are valuable as assets for the university and that their contributions make a difference to the success of the university. This should be part of the design and implementation of a coherent and consistent system of HRM practices tailored for the internal and external environment of their university.

Finally, a significant contribution of the current study is that it provides sufficient information to university managers on how to deal with administrative and support staff based on the system of HRM practices employed. Guest and Clinton (2007) state that many line managers in universities find it difficult to be fully responsible because they are still in need of high skills and confidence in handling their tasks. An example is to provide full accountability and responsibility to line managers in order to handle the day to day work, and to effectively implement the HRM practices.

### *Limitations and conclusion*

The results of the study should be interpreted with some caution, given several limitations that also suggest lines of further research. First, the study is based on a cross-sectional design. As with most research in management studies, the cross-sectional design of the current study does not allow for any conclusions regarding causality. Although, a number of procedures have been followed in order to minimize the likelihood of common method variance (CMV) bias and the Harman's one-factor test was performed with results showing that common method variance is unlikely to be a serious

problem, CMV may be a concern as this study used a self-report questionnaire to collect data from the same group at the same time. A third limitation of the study is its focus on the higher education sector that limits the generalizability of the findings. Although similar findings can be expected in other service sector organizations, the findings of the current study should be treated with caution.

Despite these limitations, the findings of the current study provide convincing evidence that the perceived system of HRM practices affects human capital, employee commitment and employee performance which in turn affect organizational performance thus the data offers an encouraging base, for researchers (and practitioners), on which to explore these relationships further. In addition, the findings of the study create opportunities for further research (and comparisons) regarding the relationship between the perceived system of HRM practices and organizational performance in different contexts, such as different sectors of the economy and/or other Euro-Mediterranean countries.

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## WINE WEB VALUE: WEB MARKETING STRATEGIES FOR FAMILY BUSINESSES

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### ABSTRACT

The goal of this research project is to deepen and expand the web marketing strategies used by family businesses (FB) and to identify the role assigned to websites and the online communication strategies implemented through them.

In order to examine the content of the information found on the website of selected FBs, an “*ad hoc*” analysis model was designed and validated with the support of marketing and industry experts through an inspecting focus group (Mich, 2007).

The observation of the FB websites showed that family-run Italian wineries use their websites mainly to present information about the business and as a relational tool through edutainment-style activities; FBs yet neglect the potential of e-commerce.

Although this path has allowed the traits essential to launch effective online communications for FBs, the small number of businesses surveyed (10) does not permit a theoretical generalisation of the results. Thus, we expect to integrate the information obtained from this preliminary study with in-depth interviews with the digital strategists for the companies examined or by increasing the number of FBs studied. In addition, the results could be compared with those from Italian businesses in the wine industry which are not family run and which meet the selection criteria (turnover, etc.).

The study highlights the importance and the attention that FBs, among others, should dedicate to the role of web communication within their communications strategy. It also provides a list of contents to consider when creating a website which should be customised with the brand’s specific details.

**Keywords:** *website; family business; wine industry; web communication.*

### INTRODUCTION

Although with a slight delay with respect to foreign competitors, the Italian wine industry has adopted the changes taking place and businesses have, in recent years, begun to use an internet-oriented approach for company communications (FleishmanHillard and the E-commerce Observatory of the Politecnico di Milano, 2015). That innovation, given the strong interference of the decision-

making organ in communications and the high incidence of family-run businesses in the wine industry worldwide (IFERA, 2013; Culasso *et al.*, 2013; Morck and Yeung, 2004; Astrachan and Shanker, 2003; Faccio *et al.*, 2002; Claessens *et al.*, 2000; La Porta *et al.*, 1999) and within Italy (Corbetta *et al.*, 2015), generates an interest in understanding the characterization of *web communication* for the above-mentioned wine producers.

The goal of this research project, then, is the expansion of online communication strategies used by *family businesses (FB)* with the purpose of identifying the role assigned to websites in company communications and the strategies implemented by such businesses, as well as tracing their distinguishing elements.

## THEORETICAL BACKGROUND

In order to take advantage of the opportunities which derive from the introduction of the internet in consumers' buying and consumption habits, the company has to be able to design and implement the appropriate *web marketing strategy*, understood as "*the strategic process of creating, distributing, promoting, and pricing products for targeted customers in the virtual environment of the Internet*" (Pride *et al.*, 2007).

The digital strategy has to carry out traditional marketing activities using the web and should be based on a pre-established *voice* and with precise behavioural rules with the intention of increasing *brand awareness*, influencing potential consumers, increasing word-of-mouth marketing and improving the brand's reputation (Fiocca and Sebastiani, 2015).

Although there are numerous tools available for the creation of a business's online communications, the website is often one of the first steps (Rios and Pablo, 2014). In fact, it is the hub as it simultaneously constitutes the company's main promotional "window" and the essence of its *online presence* (Toma and Marinescu, 2012; Kung and Zhang, 2011).

Like other industries, the growing tendency for consumers to use the internet as a means to find information about winemaking brands and products before making a choice has also brought about changes in *wine businesses'* communication strategies. This is also taking into account the fact that the website rises to become the first and only point of contact between the business and current or potential consumers (Velikova *et al.*, 2011).

The academic literature, favouring various analytical methods, often has focused on investigating the strategies implemented by wineries and wine producing regions, examining the way company websites are used in particular (Duquesnois and Gurău, 2008; Begalli *et al.*, 2008; McNeill, 2007; Stricker *et al.*, 2007; Bruwer and Wood, 2005; Sellitto and Martin, 2003; Gebauer and Ginsburg, 2003; Sellitto, 2002; Giraud-Héraud *et al.*, 2001; Stening and Lockshin, 2001).

Such studies have supported the finding that the perceived value of a product increases through use of the internet (Giraud-Héraud et al., 2001), as the company co-creates value for the consumer, acting upon two levers: the wine's quality and direct contact online. Using the tangible and intangible elements of the product (in a *service-dominant* logic; Vandecandelaere, 2006), the business generates a user experience based on his preferences (discoverable thanks to the awareness developed by the company on the web). This allows the company to involve him, satisfy his expectations, create loyalty and establish a long-term relationship (*relational approach*; Prahalad and Ramaswamy, 2004; O'Neill and Charters, 2000).

In particular, Gurău and Duquesnois (2011) summarise the process of co-creation of value through the web, trying to understand how to enhance the commercial offer (focused on various assets, such as the product's quality, the *brand's reputation*, and the *value proposition*) and the value co-creation process. In addition, the authors highlighted a few i) marketing strategies which can be launched through online tools (such as *direct marketing*, *relational marketing* and *wine tourism*) and ii) functionality able to increase the value of the consumer's experience (in internet marketing, it's given a central role, especially in small to mid-sized businesses).

Richardson (2002) posited the existence of three main website types, distinguishable according to their purely informative qualities, on the presence of pre-established *forms* on the site used to request and purchase products, until reaching more complex platforms which allow the consumer to make purchases with entire autonomy. The main goals of the websites studied, then, were divided into four points: i) *direct sales*, although not always measurable; ii) *direct marketing*, in which the descriptions of the wines, the history, the production process and tasting instructions (*value added*) of the product act as support for the representatives for the promotion of the brand and its products, especially in foreign markets; iii) *tourist promotion*, by way of the virtuous circle that connects a visit to the wine cellars and the places of production, as the *wine tourist* is considered "*a valuable potential customer to be educated and exploited*"; iv) *indirect marketing*, in which the web is used as a means to convey up-to-date and credible information, substituting brochures, and thanks to which *wholesalers* can show clients, businesses and the end user what is offered and the winemaker's partners.

According to the strategies that the business decides to implement, summarised above, and the *features* that the website includes (Taylor et al., 2010; Madill and Neilson, 2010; Begalli et al., 2008; Ness, 2006; Winters, 1997; Yuan et al., 2004), its role may vary and can be traced back to a few key objectives (Notta and Vlachvei, 2013; Madill and Neilson, 2010; Palmatier et al., 2006; Heide and Wathne, 2006; Haag et al., 2006):

- a) to provide information, as it is possible to find the brand history, the producer's bio, the company's *mission statement*, the wine production and products (certifications, awards, etc.), news

and *educational opportunity* and more details consumers are interested in (Taylor et al., 2010);

- b) to sell the product without an intermediary (e-commerce), for which companies have to publish privacy and security policies, payment methods and product delivery methods (Nielsen, 2000; Schlosser *et al.*, 2006) as they allow consumers for a proper assessment of the website;
- c) to develop dynamic, creative activities which directly intercept the end consumer to generate *engagement* and then establish a long-term, interactive, loyal relationship with users (Quinton and Harridge-March, 2006) or better with a *community* of company's fans.

The importance of the proper organisation discussed up to this point, in terms content and interaction with the end user, determines the perception that the consumer will have about the website's quality, which is an important *predictor* of the increase in trust in the winemaker and the perception of the quality of its wine (Nowak and Newton, 2008).

1. Informational level				
1.1. Company information	1.2. Wine production information	1.3. Offer information	1.4. News and events	1.5. Awards
1.1.1. History about producer/winery 1.1.2. Mission and vision statement 1.1.3. Governance model 1.1.4. Contacts	1.2.1. Vineyards 1.2.2. Facilities 1.2.3. Certifications	1.3.1. Product information 1.3.2. Brand information		
2. Interactive level				
2.1. Educational opportunity	2.2. Activities at winery	2.3. Activities linked with territory	2.4. Newsletters	2.5. Social media integration
2.1.1. Food&wine combination 2.1.2. Wine tasting information		2.3.1. Accommodation facilities 2.3.2. Restaurants 2.3.3. Local tourist attractions		2.5.1. Facebook 2.5.2. Twitter 2.5.3. Youtube 2.5.4. LinkedIn 2.5.5. Instagram 2.5.6. Google+ 2.5.7. Pinterest 2.5.8. Flickr 2.5.9. Tripadvisor 2.5.10. Forums 2.5.11. Blogs 2.5.12. Wine club subscription
3. Transactional level				
3.1. E-commerce availability				
3.1.1. Payment methods 3.1.2. Delivery time 3.1.3. Delivery costs 3.1.4. Privacy				

Table 1. *Content organisation of the Family Business website*

## THEORETICAL FRAMEWORK AND RESEARCH QUESTIONS

Based on an analysis of the academic literature identified in the above paragraph, the elements chosen to evaluate the contents' architecture and the usage level of *wine business* websites have been identified and are proposed below (see table 1).

The presence of the identified elements primarily allows us to understand the strategies adopted by the wine producers, closely linked to the role assigned to the website in company communication (Notta and Vlachvei, 2013; Sun *et al.*, 2012; Madill and Neilson, 2010; Vescovi, 2007; Canavan *et al.*, 2007; Palmatier *et al.*, 2006; Heide and Wathne, 2006; Haag *et al.*, 2006).

So, the role of the website can be categorised as follows:

- **informative** ("1. Informational level" in the table 1): the website supplies information on the business, its production process, its products, as well as news, awards and recognitions, and even offers contact information and the company's location (e.g. telephone number, address, email);
- **interactive** ("2. Interactive level"), by which the business establishes a relationship with the user, offering him the *educational opportunity* to expand his knowledge as *wine enthusiasts*, activities held at the winery to promote wine tourism and activities in the region to incentivise a visit, the subscription to a newsletter and the website's integration with social media to create an online community;
- **transactional** ("3. Transactional level"), in which a platform for the promotional marketing and sales of the winemaker's products is provided.

In accordance with the literature and considering the proposed theoretical framework, this work is thus intended to respond to the following research question: *What are the contents of the Italian, family-run, wine business's websites and the role entrusted to them? What are the communications strategies pursued over the Web?*

## EMPIRICAL SURVEY METHODOLOGY

To respond to the research question, the methodology described below was used.

### *Identification of the businesses to be part of the survey*

To define the analysis sample, it was assumed that the adoption of suitable online marketing and communication strategies could increase the visibility and awareness of a brand, in particular, about its highly cognitive products (Notta and Vlachvei, 2013, Stricker *et al.*, 2007, Mattiacci *et al.*, 2006) such as wine, and that the latter reflect upon the business's performance. Adopting a *benchmarking* logic



(Camp, 1989; Lankford, 2000), the top thirty Italian wine producers, those who demonstrated the highest numbers of sales in the industry from 2010-2014, were chosen.

In this regard, the criteria reported below were input into the AIDA database (<http://www.bvdinfo.com>) on 16 May 2015:

1. the ATECO (2007) code 11.02, which refers to companies which produce wine from grapes;
2. the geographical location within Italy.

For each of the years studied (2010-2014, comprehensive) the top 30 businesses in terms of turnover were selected. The dataset returned by AIDA was integrated, where necessary, with data from a report titled “Indagine sul settore vinicolo” (A Survey on the Wine Industry) by Mediobanca in 2015. From that dataset of 30 businesses, those not present in every year of the five-year period studied were eliminated. As such, the sample size was reduced to 22 businesses.

Finally, from the list being examined, only businesses classified as “family owned” were selected, for a final number of 10 cases analysed (see table 2).

	Company name and place	Company website
1	ANTINORI Firenze - Tuscany	<a href="http://www.antinori.it">http://www.antinori.it</a>
2	CASA VINICOLA BOTTER CARLO & C. Fossalta di Piave (Ve) - Veneto	<a href="http://www.botter.it/it/">http://www.botter.it/it/</a>
3	CASA VINICOLA ZONIN Gambellara (VI) - Veneto	<a href="http://www.zonin1821.it">http://www.zonin1821.it</a>
4	COMPAGNIA DE' FRESCOBALDI (°) Florence - Tuscany	<a href="http://www.frescobaldi.it/it-it/home.aspx">http://www.frescobaldi.it/it-it/home.aspx</a>
5	CONTRI SPUMANTI Cazzano Di Tramigna (Vr) - Veneto	<a href="http://contrispumanti.com">http://contrispumanti.com</a>
6	ENOITALIA San Martino Buon Albergo (VR) - Veneto	<a href="http://www.enoitalia.it">http://www.enoitalia.it</a>
7	FRATELLI MARTINI SECONDO LUIGI Cosasno Belbo (CN) - Piedmont	<a href="http://www.fratellimartini.it">http://www.fratellimartini.it</a>
8	CAMPARI Group (S) (wines) Milano - Lombardia	<a href="http://www.camparigroup.com/it">http://www.camparigroup.com/it</a>
9	GRUPPO SANTA MARGHERITA Fossalta di Portogruaro (VE) - Veneto	<a href="http://www.santamargherita.com/it/">http://www.santamargherita.com/it/</a>
10	MASI AGRICOLA (°) S. Ambrogio Di Valpolicella (Vr) - Veneto	<a href="http://www.masi.it">http://www.masi.it</a>

Table 2. *The family-owned wineries examined*

Legend: (°) Consolidated balance.

(§) Wine division, which only includes: «Riccadonna», «Cinzano» (vermouth and spumante), «Mondoro» (spumante), «Odessa», «Sella & Mosca», «Enrico Serafino», «Teruzzi & Puthod», «Château Lamargue» e «Liebfraumilch».

Please note that, in compliance with current legislation on privacy protection (D.Lgs. n. 196/2003 - Codice in materia di protezione dei dati personali), the value of turnover is omitted, although for consolidated groups it is available on their websites.

#### *The organisation of a focus group and analysis of the online communication content*

In order to validate the analysis model and the attributes identified in the academic literature (see table 1), adapting them for the cognitive demands of the *case studies* used, an examining focus group was organised (Mich, 2007). A few experts in the winemaking industry (two sommeliers, two entrepreneurs) and in business communications (two university researchers, a sociologist, two *digital strategists*) participated in the meeting, held 5 June 2015. The focus group lasted approximately 90 minutes and involved two *steps*: 1) presentation of the research objectives; 2) discussion and validation of the model to adopt for the websites' analysis (see table 1).

The last step was the analysis of the online communications of family-owned wineries through a study of the contents and organisation of their websites.

## FINDINGS

The study of the selected websites (see table 2), was carried out by observing each of the sections found in the table previously analysed (table 1); the presence of the elements proposed in the aforementioned table in at least 50% of the businesses studied allowed for the identification of online communication strategies which are mainly used by *family-owned wineries*.

In relation to the *Informational level* (code 1.), we focused our attention on the main information categories around which the company website is organised.

The company description (*company information*, code 1.1.) is characterised by the presence of a "Family" section, where one can find the narration of the *history* (100% of the cases; code 1.1.1.) and the explanation of the *mission statement* and of the *vision* (90%; code 2.1.1.2.) which is connected not only to the company, but to the family itself. Antinori, for example, separates the "Family" section from the company section. Zonin, in addition to having "Company" and "History" sections, has another header titled "Family" where the family members and their roles are presented (see figure 1).

Table 3. *The Zonin family*

In terms of the *contacts* category (code 1.1.4.), on the homepage, the wineries display the address of their legal headquarters (50%) and supply other details in the dedicated section (called “Contacts”), which contains the business email address also.

The *wine production information* (code 1.2.) is concentrated on the initiatives, which create added value for the end consumer, such as certifications (70%; code 1.2.3.) or information related to “sustainability” (which thus include the concepts of quality, health, safety, protection of biodiversity, less waste of resources such as water and fewer carbon dioxide emissions).

Campari, for example, under the “Sustainability” header lists “*Sustainable Campari, Marketing and Responsible Practices, QHSE-Quality, [...]*”, considering the concept of the company’s social responsibility (taken up by Enoitalia also). Zonin dedicates a page to “Sustainability” in the “Company” section, dividing it into: “*Water Resources, Co2 Emission Reductions, Biodiversity and Reforestation, Energy Resources, Research and Development*”. Frescobaldi focuses on “Sustainability” (see figure 2), explaining the various certifications held, such as *AgriQualità*, as further proof of the pursuit of “*Sustainable Agriculture*”, and the “*Forest Certification*”. These are joined by the numerous activities undertaken (including the implementation of “*Green Energy Sources*”) which make theirs “*Sustainable Production*”.

Table 4. *Frescobaldi and sustainability*

The *Offer information* (code 1.3.) is focused on the presentation of the product portfolio (70%; *Product information*, code 1.3.1.), in which the main information is reported, such as: type of grape used, origin, alcohol by volume, serving temperature, description of the organoleptic characteristics and food pairings (this is true for Antinori, Fratelli Martini, Contrì, Botter and Santa Margherita). The remaining part (30%; *Brand information*, code 1.3.2.), on the other hand, presents the partner brands and the products (think of the Campari Group categories or of Enoitalia brands logos', which act as links to each label's website).

The *News and events* section (90%; code 1.4.) is generally not kept up to date, with two exceptions (Zonin and Masi). This section summarises the events organised by the wineries, initiatives as well as recognitions received. The latter, along with the *awards*, can also be rediscovered in the wine descriptions or, as in 50% of the cases examined, in dedicated sections of the website (*Awards and recognitions*, code 1.5.). In addition, in the *News and events* section, 50% of the businesses examined (Masi, Zonin, Fratelli Martini, Frescobaldi and Antinori) promote visits to their cellars, and only two of them reserve a special section dedicated to wine tourism through a link to an external website.

Moving our attention to the *Interactive level* of the website (code 2.), 60% of the winemakers launched *Educational opportunities* (code 2.1.), focused in particular on proposing food and wine pairings (60%; *Food and wine pairings*, code 2.1.1.) and wine tastings (40%; *Wine tasting information*, code 2.1.2.). The goal being pursued is that of assisting the consumer in the choice of wine, especially if he is inexperienced, supplying selection criteria such as the name of the wine, the *cru* of origin or food pairings, through specialised *tools* integrated with the website or in the form of smartphone apps or tasting videos.

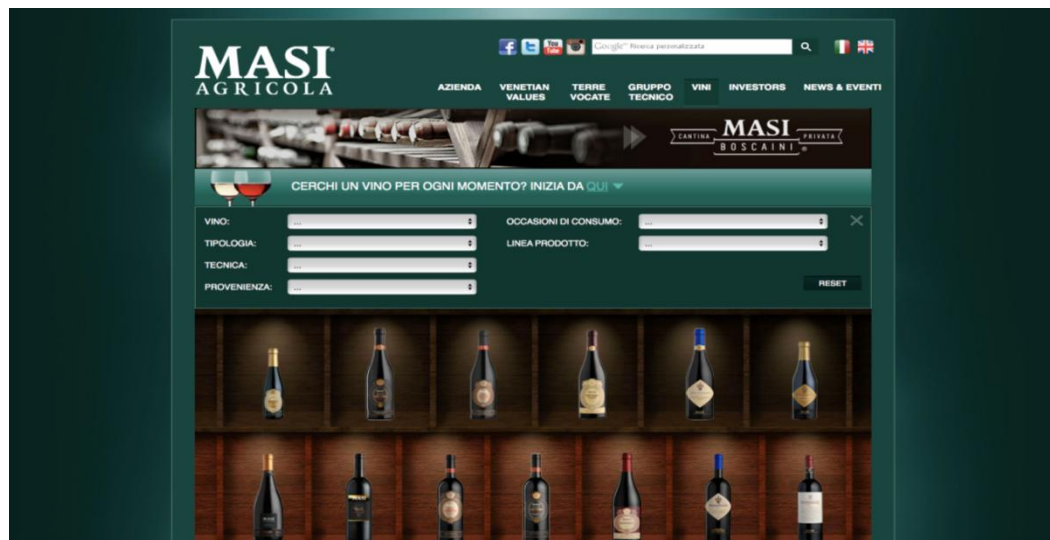


Table 5. *Masi Agricola's customised offer for the consumer*

In this regard, Frescobaldi and Masi's solutions (see figure 3) are similar, as both customise the consumer's search with browsers within the website, called "Find a wine". These browsers allow for the selection of a product offered by the company based on the name, the cru of origin and other characteristics, thereby simplifying the choice the user has to make (especially for non-experts), with an additional criteria: "food pairings" (suggesting, for example, the ideal wines for an aperitif or for meat dishes, fish dishes or desserts).

Finally, it is worth noting the websites' low level of integration with *social networking sites* (*Social media integration, code 2.5.*); from the study of family-owned wine businesses, it is clear that the preferred platforms are Twitter (60%), Facebook (50%) and YouTube (50%) exclusively.

The transactional level is absent in the whole sample examined.

## THE COMMUNICATIONS STRATEGIES PURSUED OVER THE WEB

The research carried out demonstrated that family-owned wineries in Italy use their websites to:

- a. Supply general information about the business (*informational level, code 1.*), concentrating on the history, the *mission* and the *vision* of the company, according to its characteristics. The creation of *brand awareness* is based on the typical elements of the wine industry, customised according to the company's essence;
- b. Involve the user (*interactive level, code 2.*), through suggestions for wine tastings and food pairings, especially by way of *edutainment* (Walldén and Soronen, 2008) through special applications for *smartphones* or through *posts* on the main social media websites (Twitter, Facebook and YouTube).

The elements stated above demonstrated that the main goals of the websites (Gurău and Duquesnois, 2011; Richardson, 2002) are, on one hand, the promotion of the brand and its products, domestically

and internationally, using *direct* and *indirect marketing* strategies and, on the other, *relational marketing*. Proceeding in this way, such approaches play a fundamental role in the creation of a high level of satisfaction in the *customer experience* (Shanka and Taylor, 2004; Dodd, 1999) as they allow the company to obtain a high level of involvement with consumers (*Involvement*), based on the needs they express (*Personal needs*). This generates a dialogue which keeps consumers up to date on promoted initiatives, events and products at the winery, which then stimulates them to visit (*Motivation*). In addition, the use of social media sites, useful not only for the presentation of what the company has to offer (Velikova *et al.*, 2011; Pitt *et al.*, 2011; Watts *et al.*, 2008; Olsen *et al.*, 2008), allows the business to intercept the end consumer and establish a long-term relationship with him, creating trust and loyalty to the brand (Quinton and Harridge-March, 2006), thus highlighting the wineries' *marketing oriented* approach (Velikova *et al.*, 2011).

The analysis reveals the absence of a specific call to e-commerce (*transactional level 2.3*), that is, the policy of selling products online (Richardson, 2002). This last aspect seems to be of particular interest since it highlights the modest amount of attention that individual companies pay to online product sales (*transactional level, code 3*).

## CONCLUSIONS, RECOMMENDATIONS AND DIRECTIONS FOR FUTURE RESEARCH

This research project was designed to examine the types of communications found on the websites of *family-owned businesses* in the wine industry, with the goal of understanding the details of the models used and their related competitive strategies.

A close examination of the contributions of managerial literature on the theme (Duquesnois and Gurău, 2008; Begalli *et al.*, 2008; McNeill, 2007; Stricker *et al.*, 2007; Bruwer and Wood, 2005; Sellitto and Martin, 2003; Gebauer and Ginsburg, 2003; Sellitto, 2002; Giraud-Héraud *et al.*, 2001; Stening and Lockshin, 2001) allowed for the creation of an evaluation model to effectively organise the websites' content. This, with the aim to not only provide information about company, products and events to users (*Informational level*), but also to involve them (*Interactive level*) with contents which are able to generate a dialogue that keeps consumers up to date, in order to stimulate them to visit the winery and its website (*Motivation*) and to buy its products (*Transactional level*). Moreover, the application of this model to the *Italian, family-run, wine business*, validated thanks to the support of participating experts, permitted to observe its usefulness as a self-assessment tool for the evaluation of the corporate communicative system; in fact, the analysis highlights that wineries often don't complete the communicative path because of the absence or the wrong collocation of specific contents (e.g. low level of integration with social networking sites, lack of transactional level).

The limits of this study are attributable to the small number of wineries examined (10), which does not allow for a theoretical generalisation of the results. However, the analysis carried out identifies the model of *web communication* adopted by the *family-owned business* in the Italian wine industry. This information may be usefully integrated with an additional level of *web content analysis* based, for example, on the experience – that is, on the textual content of the websites examined (using *text mining*). In addition, it would be useful to compare the results obtained for the family-owned wineries with non-family owned businesses in the industry which have similar characteristics (turnover, etc.) as our sample.

This research leads to the elaboration of a few observations regarding possible managerial implications. The importance and the attention that the wineries should dedicate to the role that *web communication*.

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# DISCLOSURE OF ELECTRIC MOBILITY IN ANNUAL REPORTS OF AUTOMOTIVE COMPANIES: RISKS, STRATEGIES, AND ENVIRONMENT

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## ABSTRACT

This paper intends to use the narrative section of annual reports to capture the role of electric mobility from the perspective of automobile companies. In particular, the explorative analysis focuses on the following aspects of electric vehicles (EV): risks, strategies, and environmental impact. From the analysis of the relation between the disclosure of electric mobility and economic performance, it appears that there is no significant link between company performance and an emphasis on electric mobility. The research method is based on thematic content analysis applied to the narrative section of annual reports. For the empirical analysis, we used a sample of major companies active in the European automobile market. Content analysis shows that automobile companies emphasize the strategic role and the environmental impact of electric mobility, whereas the risks involved are discussed less. The information disclosed is mainly qualitative and non-financial and has a historical time orientation.

**Keywords:** *electric mobility; electric vehicles; content analysis; annual reports; narrative reporting.*

## 1. INTRODUCTION

This paper intends to use the narrative section of annual reports to investigate the role of electric mobility from the perspective of automobile companies. Because the electric mobility market is new and rapidly evolving, it may be of interest to investigate the vision communicated in the narrative section of annual reports of car manufacturers. As noted by the European Automobile Manufacturers Association in a press release on 5 February 2015 ([www.acea.be](http://www.acea.be)), in 2014, approximately 75,000 new electric vehicles (EV) were registered in the European Union, a growth rate of 37% in comparison to the previous year. The largest increment is observed in the UK (+ 300%), followed by Germany (+ 70%), and France (+ 30%). In the EFTA (European Free Trade Association) countries, Norway is at the top, with approximately 20,000 new registrations, which is more than double the EVs registered in 2013 (+ 141%). Table 1 shows the total registration of EVs in 2014, with differences in comparison with the previous year. This explorative analysis focuses on the following aspects of the EV market: risks, Innovation, Entrepreneurship and Digital Ecosystems

strategies, and environmental impact. In addition, an analysis of the relation between economic performance and the disclosure of electric mobility in annual reports is conducted. For the empirical analysis, we used a sample of major automobile manufacturers active in the European market.

Country	2014	2013	Variation %
AUSTRIA	3,641	3,227	12.8%
BELGIUM	2,032	819	148.1%
BULGARIA	2	1	100.0%
CZECH REPUBLIC	583	475	22.7%
DENMARK	1,612	650	148.0%
ESTONIA	402	150	168.0%
FINLAND	440	218	101.8%
FRANCE	12,488	9,622	29.8%
GERMANY	13,118	7,706	70.2%
GREECE	64	4	1,500.0%
HUNGARY	43	16	168.8%
IRELAND	256	50	412.0%
ITALY	1,473	1,174	25.5%
LATVIA	391	13	2,907.7%
THE NETHERLANDS	12,920	22,495	- 42.6%
POLAND	3,968	1,900	108.8%
PORTUGAL	289	221	30.8%
ROMANIA	7	4	75.0%
SLOVAKIA	169	136	24.3%
SPAIN	1,405	883	59.1%
SWEDEN	4,667	1,547	201.7%
UK	15,361	3,833	300.8%
EUROPEAN UNION	75,331	55,144	36.6%
EU 15	69,766	52,449	33.0%
EU NEW MEMBER	5,565	2,695	106.5%
NORWAY	19,767	8,210	140.8%
SWITZERLAND	2,693	1,717	56.8%
EFTA	22,460	9,927	126.3%
TOTAL EUROPE (EU +EFTA)	97,791	65,071	50.3%
WEST EUROPE (EU 15 + EFTA)	92,226	62,376	47.9%

Table 1 – Registration of electric vehicles (electrically charged vehicles\*) in Europe

Source: [www.acea.be](http://www.acea.be)

\*Electrically Charged Vehicles = Pure Electric Vehicles + Extended-Range Electric Vehicles + Plug-In Hybrid Electric Vehicles

This paper draws upon legitimacy theory to develop one testable hypotheses. The research method is based on the thematic content analysis (Krippendorff, 2013; Weber, 1988;) applied to the narrative section of annual reports (Beattie et. al., 2004). This section of annual reports increased its importance in recent years to satisfy the information needs of several stakeholders (IASB, 2010; IIRC, 2013; Teodori and Veneziani, 2013). This paper continues with a literature review, followed by the electric mobility

aspects investigated and the research method. Thereafter, the results of the empirical analysis are presented, followed by the conclusions.

## **2. LITERATURE REVIEW**

The relevance of research on the narrative section of annual reports has been shown in its historical evolution by Beattie (2014). From the literature review related to the content analysis of the narrative section of annual reports, it appears that a specific analysis on the electric mobility in automobile companies is missing. However, a common theoretical framework for this type of research can be found in the vision of the annual report as a communication tool, particularly in a context of the growing usage of information technology. The narrative section of annual financial statements has widened its role of annual accounts from the area of financial communication to a business reporting tool covering several aspects of the business activity, which allows a form of integrated communication (e.g., Busco et al., 2013). As observed in the literature on earnings quality (e.g., Dechow et al., 2010), the disclosure process in narrative form can also raise the issue of manipulation, which is considered to be behavior targeted towards hiding results or negative aspects of the business performance (e.g., Adelberg, 1979), or the quality of the linguistic characteristics that influence the understandability of the text (e.g., Jones and Smith, 2014). In theory, the narrative section of annual reports is an opportunity for the management to discuss and analyze financial performance and other aspects of the business activity, such as social and environmental issues. As stated in IASB (2010: §9) “management commentary should provide users of financial statements with integrated information that provides a context for the related financial statements. Such information explains management’s view not only about what has happened, including both positive and negative circumstances, but also why it has happened and what the implications are for the entity’s future”. Using this communication tool, the management sends signals to several stakeholders, revealing key messages they want to divulge. Analyzing the theme of electric mobility, we are able to show what is disclosed; in addition, the less discussed topics may indicate a company approach to the issue under investigation.

## **3. ELECTRIC MOBILITY: RISKS, STRATEGIES, AND ENVIRONMENT**

The orientation towards a green economy and sustainability have stimulated company behavior in the direction of social responsibility, environmental protection, and alternative sources of energy. This general statement can be applied to automobile companies, and in this context, the issue of electric mobility can be analyzed. In particular, we attempt to capture the following aspects as communicated in the annual reports: risks, strategies, and the environmental impact. In general, those aspects are noted in the framework suggested by the IASB (2010) with the purpose to improve corporate

communication. IASB (2010) emphasizes the disclosure of risk factors and business strategy: “That type of commentary will help users of the financial reports understand, for example: (a) the entity’s risk exposures, its strategies for managing risks and the effectiveness of those strategies” (IASB, 2010: §14). The notion of business risk is strictly linked to the concept of value creation; maximizing value creation can be viewed as optimizing growth and performance targets with the relative risks (PWC, 2006). From auditing, the standard definition of business risk is “ risk resulting from significant conditions, events, circumstances, actions or inactions that could adversely affect an entity’s ability to achieve its objectives and execute its strategies, or from the setting of inappropriate objectives and strategies” (ISA No. 315, § 4.b). Disclosure of business risks is a key component of financial reporting and strategic planning, in particular, for growing companies willing to communicate with the financial market. Strategic risks applied to electric mobility can be considered in general terms; this is not linked to a short-term performance target but is in relation to the strategic vision and the medium long-term objectives in the framework of corporate mission and values (Coda, 1992). In this aspect, the strategic risk is different from compliance, reporting and operational risks (PWC, 2006). In addition, strategic risks may be internal, which is linked to behaviors, decisions, and circumstances stemming from corporate management, or external, which means stemming from factors not controlled by the management, such as government policy and other institutional changes. Among the types of strategic risk related to electric mobility, we can note the following:

- technological risks, linked to product development and the recharging infrastructure;
- market risk, linked to the market share of EVs;
- financial risk, linked to the return rate on investment in electric mobility.

We attempted to use this framework in gathering information on the risk aspects during the annual reports’ content analysis process. In terms of corporate strategy (e.g., Coda, 1992; Porter, 1985), electric mobility requires complex analysis and a forecast of uncertain scenarios in terms of political and institutional policy and consumer behavior regarding the electric mobility issue. In this respect, content analysis of annual reports can reveal the approaches used by automobile companies. Regarding environmental information, the literature has discussed the relation between financial information and the environmental impact of the business activity (e.g., Al-Tuwaijiri et al. 2004; Catturi, 1993; Endrikat et al., 2014; Matacena, 1984). The focus on social and environmental aspects has been recognized with international standards, such as the GRI (Global Reporting Initiative), which refers to the general notion of corporate social responsibility (e.g., Carroll, 1999; Rusconi and Dorigatti, 2004; Terzani, 1984). In the European Commission Recommendation (2001/453/EC), “the term environment refers to the natural

physical surroundings and includes air, water, land, flora, fauna and non-renewable resources such as fossil fuels and minerals (...) environmental issues should be disclosed to the extent that they are material to the financial performance or the financial position of the reporting entity. Depending upon the item, disclosures should be included in the annual and consolidated annual report or in the notes to the annual and consolidated accounts". In this context, we attempt to capture the environmental aspect of information linked to electric mobility. Overall, our arguments can be framed in the context of legitimacy theory. According to this theory, an organization is unable to develop and survive if its aims and methods are not in line with the expectations of society (economic, social, and political factors). Brown and Deegan (1998), Lindblom (1994), and Patten (1995) are examples of social and environmental disclosure studies in the accounting literature that used a legitimacy framework. In particular, Lindblom (1994) describes various reporting strategies that corporations can adopt in their process of legitimation. In the case under investigation, we can hypothesize that automobile companies may try to manipulate the perception of electric mobility focusing on strategies and environmental benefits for the society, obfuscating issues of concerns such as risks and EVs drivers obstacles. For this reason, we formulate the following hypothesis: (H1) disclosure of electric mobility in annual report of automotive companies emphasize strategies and environmental aspects in comparison to risks.

#### **4. RESEARCH METHOD AND SAMPLE SELECTION**

The research method refers to the content analysis (e.g., Krippendorff, 2013) applied in social science. Our research was conducted by searching for certain key words in the text under observation. We selected our sample on the basis of the European car market in April 2014 as reported in a commercial magazine (Quattroruote, No. 705/2014), constructed using the database of the European Association of Car Manufacturers (Acea). This choice is motivated by the fact that 2013 annual reports are generally published during that period of time. We considered one year (2013) showing intercompany differences. We used eleven annual reports for 2013 with a closing date of 31 December; however, in seven cases, the closing date was 31 March 2013. For each company, we download the annual report from the corporate website. Because the business entities included in our sample are multinational companies with headquarters in different countries, we used the English version of the website, and the document download is always labelled as the annual report. Using the approach of Beattie et al. (2004), we considered the unit text of a sentence containing a single piece of information as the object of observation. As shown by Jones and Shoemaker (1994), the classification of a text in particular groups can be implemented with reference to specific themes or single words. In the first level of analysis, we attempted to measure the presence or absence of discourses related to electric mobility. As suggested by Beattie (2000), we sought to show certain aspects of the information provided. First, we classified the

information into the framework of general topics (risk, strategy, and environment). Second, for each piece of information, we attempted to show other features: time orientation (historical / forward-looking), financial / non-financial, qualitative / quantitative. This research is focused on the theme of electric mobility (Emobility, sustainable mobility); therefore, the reasoned choice of key words is oriented towards that issue. In particular, to identify such key words, we made reference, in general, to IASB (2010) and specifically, to operative publications showing advantages and disadvantages stemming from the EV market (e.g., IEA, 2013; PWC, 2014). The list of key words is as follow:

- Electric vehicle / EV /EVs / electric car / electric cars: these keywords relate to vehicles (automobiles) operated with a battery. We excluded the specific search of the term 'hybrid', which refers to vehicles operated with a traditional internal combustion engine and a battery.
- CO2: this term relates to the issue of CO2 emissions and the related environmental pollution caused by the circulation of internal combustion engine vehicles, whereas those emissions are zero in the case of EVs.
- E-mobility/ electromobility / electromotive mobility /sustainable mobility: these keywords relate to the theme of electric and sustainable mobility in terms of environmental impact.
- Charging infrastructure / recharging / charge point / charging: these terms refer to the issue of the existence or absence of recharging infrastructure for EVs, the manner in which they work, the charging time; these issues may be an obstacle for drivers or potential drivers of EVs.

The hypothesis implicit in this approach is that the frequency of key words is an indicator of interest towards electric mobility and related issues. The presence or absence of discourses regarding specific themes linked to electric mobility has been the main object of observation. In fact, because the range of information provided in the annual report may be very wide, it is reasonable to focus on specific information. In this perspective, the most relevant examples are known in the research field devoted to environmental and social information (e.g., Hooks and Van Staden, 2010). In our analysis, we considered the frequency number in absolute value terms and in relation to the total number of document pages. In addition, we considered the frequency in relation to the total number of words contained in the annual report. This approach was adopted by Bowman and Haire (1976), Trotman and Bradley (1981); they attempted to measure the social information disclosed in annual reports as a percentage of the total length of the document investigated. We used annual reports in a pdf file format downloaded from each company website. Each pdf file was converted into Word format (or a text file) for subsequent analysis. In particular, the conversion to Word format (or a text file) allowed the counting of words of interest in comparison to the total words contained in the document. Thus, we

may obtain an indicator of the importance of electric mobility in the aspects analyzed. In detail, the methodology is as follows. For each key word, we counted the frequency number. For each occurrence, the entire sentence (single information) was collected and analyzed for its meaning. Thus, for each single information, we implemented two levels of classification. The first level refers to the aspects of risk, strategy, and environmental impact. The second level refers to certain information features: time orientation (historical / forward looking), financial / non-financial, qualitative / quantitative. In accordance with this approach, we are able to gather a series of element that may be present or absent in the narrative section of the annual report. The research method's objective is to show what is disclosed and what is not discussed regarding electric mobility. Moreover, thus, we can show the different approaches followed in the automobile industry. To compare the emphasis on electric mobility, as revealed in the annual report, with economic performance, we gathered certain financial information for each company: return on equity (ROE) before tax, return on sales (ROS), and return on investment (ROI). This information is collected from the Osiris database and manually from the annual report. Using the Spearman's rank correlation index, we tested the relation between economic performance and the emphasis on electric mobility.

## 5. EMPIRICAL RESULTS

The descriptive analysis of the evidence we obtained is reported in Table 2. Overall, we analyzed 18 annual reports. The average number of pages in the annual reports is 147. The total number of pages is 2,639, with an average number of words of 69,282. The first level of analysis shows the frequency of key words and its relative relevance in the annual report. The total key words frequency is 624. With the exception of Suzuki, Table 2 shows that the theme of electric mobility is discussed in the annual report with intercompany differences. The key words with the highest frequency are CO<sub>2</sub> (48%), which clearly refers to environmental issues, followed by EVs (29%). The issue of the recharging infrastructure (9%), which may be an

obstacle for the circulation of EVs, is nearly neglected. In particular, using the percentage of key words relative to the total number of pages as an indicator of interest, it is possible to identify automobile companies that emphasize the electric mobility theme at different levels. The companies are listed in Table 2 according to the above noted indicator from high to low. It is worth noting that the top companies, Nissan and Renault, have a strategic and investment alliance. Using a different indicator, the percentage of key words relative to the total number of words in the document, the order presented in Table 2 is substantially confirmed. As an additional test, we considered the average number of words (445) per page as a standard page, recalculating the indicator of key words relative to the total number of standard pages. In addition, in this case, we observe similar results; in particular, the top five and the



bottom five companies are the same as shown in Table 2. It would be of interest to compare this scoring with the percentage of EVs production over the total production of cars, but this data is not provided. However, it is worth noting that Nissan writes in its annual report to be the world leader in the EV market (Nissan's Annual Report, 2013, p. 13) and Mitsubishi aims to achieve a 20% or higher total production ratio of EVs (Mitsubishi's Annual Report, 2013, p. 28). The case of Suzuki is of interest because it shows that the pattern towards the electro mobility is not totally accepted in the automobile industry.

Company Name	No. Pages (a)	No. Words (b)	Key Words				Indicators		
			EV	CO2	Electric mobility	Charging infrastructure	Total key words (c)	% (c)/(a)	% (c)/(b)
NISSAN	46	14,502	17	8	2	6	33	72%	0.228%
RENAULT GROUP	71	20,301	39	6	0	2	47	66%	0.232%
MITSUBISHI	66	29,849	29	10	0	3	42	64%	0.141%
VW GROUP	424	195,488	15	119	35	22	191	45%	0.098%
KIA	68	37,415	21	3	4	1	29	43%	0.078%
JAGUAR LAND ROVER	85	57,956	7	21	0	0	28	33%	0.048%
MERCEDES	284	147,243	7	70	5	7	89	31%	0.060%
BMW GROUP	208	153,635	4	25	22	6	57	27%	0.037%
TOYOTA	124	78,002	15	6	1	4	26	21%	0.033%
HYUNDAI	77	27,653	8	6	0	2	16	21%	0.058%
PSA GROUP	148	58,334	3	15	0	0	18	12%	0.031%
HONDA	68	23,575	1	3	3	1	8	12%	0.034%
VOLVO	198	102,428	6	1	12	1	20	10%	0.020%
MAZDA	60	3,938	1	2	0	0	3	5%	0.076%
FIAT GROUP	366	141,159	5	2	7	0	14	4%	0.010%
FORD	152	71,877	2	0	0	0	2	1%	0.003%
GM GROUP	130	59,377	1	0	0	0	1	1%	0.002%
SUZUKI	64	24,336	0	0	0	0	0	0%	0.000%
Total	2,639	1,247,068	181 (29%)	297 (48%)	91 (15%)	55 (9%)	624 (100%)		
Mean	147	69,282							

Table 2 – Description of Annual Report 2013 and frequency of key words

EV = EV, EVs, electric vehicle/s, Electric car/s.

Electric Mobility = e-mobility, electromobility, electromotive mobility, sustainable mobility.

Charging Infrastructure = recharging, charge point, charging.

From the analysis of each key word in the context of the narrative reporting, we identified 189 sentences (Table 3). We define a sentence (single information) as text appearing between punctuation signs, having a meaning, and containing at least one key word. We excluded from the notion of a sentence the cases in which the key words are presented in graphics, glossary, and other notes. It is

possible to note that the theme of CO<sub>2</sub> is highly discussed by VW group (40% of words = 119/297; 12% of sentences = 6/49), Mercedes (24% of words = 70/297; 12% of sentences), and BMW group (8% of words = 25/297; 12% of sentences = 6/49); together these German companies reach a total of 74% of words CO<sub>2</sub> (214/297) and 36% (18/49) of the sentences on that issue. In addition, considering the relevance of EVs in terms of sentences, it is confirmed that companies in the top positions are Mitsubishi, Renault, VW, and Nissan.

Company Name	EV			CO <sub>2</sub>			Electric mobility			Charging infrastructure		
	No. Sentences	No. Words	n/a	No. Sentences	No. Words	n/a	No. Sentences	No. Words	n/a	No. Sentences	No. Words	n/a
VW GROUP	9	15	1	6	119	69	13	35	5	7	22	8
PSA GROUP	2	3	0	4	15	0	0	0	0	0	0	0
RENAULT	11	39	1	4	6	0	0	0	0	2	2	0
FORD	2	2	0	0	0	0	0	0	0	0	0	0
GM GROUP	1	1	0	0	0	0	0	0	0	0	0	0
BMW GROUPE	3	4	0	6	25	4	7	22	0	2	6	0
FIAT GROUP	4	5	0	2	2	0	4	7	2	0	0	0
MERCEDES	5	7	0	6	70	9	4	5	0	4	7	1
NISSAN	7	17	0	3	8	0	2	2	0	1	6	0
TOYOTA	1	15	0	2	6	0	1	1	0	2	4	0
HYUNDAI	1	8	6	1	6	2	0	0	0	2	2	0
KIA	4	21	0	2	3	1	2	4	0	1	1	0
VOLVO	5	6	0	1	1	0	5	12	0	1	1	0
JAGUAR LAND ROVER	3	7	0	3	21	0	0	0	0	0	0	0
MAZDA	1	1	0	2	2	0	0	0	0	0	0	0
HONDA	1	1	0	2	3	0	3	3	0	0	1	0
SUZUKI	0	0	0	0	0	0	0	0	0	0	0	0
MITSUBISHI	14	29	3	5	10	3	0	0	0	3	3	0
	74	181	11	49	297	88	41	91	7	25	55	9
Total words	624											
Total sentences	189											
Total n/a	115											

Table 3 – Sentences for each key word

N/A = Information not classified (graphs, tables, and glossary).

EV = EV, EVs, electric vehicle/s, Electric car/s.

Electric Mobility = e-mobility, electromobility, electromotive mobility, sustainable mobility.

Charging Infrastructure = recharging, charge point, charging.

The analysis continues with the classification of the information in the aspects of risk, strategy, and environmental impact. In this segment of the analysis, we focus on the meaning of the sentences in the context of the narrative reporting. Additionally, we observe certain information features: time orientation (historical, forward-looking), financial / non-financial, qualitative / non-quantitative. Regarding this aspect, it is worth noting that each sentence has been analyzed in connection with the immediately preceding and following sentences. Moreover, in certain cases, we counted one sentence, although formally there were two or more, when their meaning was strictly linked. In some cases, a sentence was classified in more than one general topic or features according to its meaning and information content. Table 4 shows that most information regards corporate strategy and opportunity stemming from electric mobility (64%), followed by the environmental impact (32%), and finally the discussion of risks (4%) linked to the EV market. Considering the null hypothesis of identical proportion of the information in the three categories, the disclosure of risks is significantly ( $z = -7.78$ ,  $p=0.00$ ) lower in comparison of the information about strategies and environment. Therefore, we can state that H1 is corroborated. We can sustain that annual reports tend to depict the positive aspect of electric mobility, whereas the story of potential risks (recharging infrastructure, range anxiety, consumers' behavior, market growth, alternative technologies, and new regulations) is discussed less.

KEY WORDS	General Topics				Features								
	Risk	Strategy	Environment	Total	Qualitative	Quantitative	Total	Financial	Non-Financial	Total	Historic	Forward-looking	Total
EV	2	65	19	86	64	15	79	0	73	73	59	19	78
CO2	3	24	39	66	27	26	53	0	50	50	40	14	54
Electric mobility	0	36	15	51	39	5	44	0	42	42	32	12	44
Charging infrastructure	4	20	1	25	20	8	28	0	24	24	18	6	24
Total	9	145	74	228	150	54	204	0	189	189	149	51	201
%	4%	64%	32%	100%	74%	26%	100%	0%	100%	100%	75%	25%	100%

Table 4 – Information features

EV = EV, EVs, electric vehicle/s, Electric car/s.

Electric Mobility = e-mobility, electromobility, electromotive mobility, sustainable mobility.

Charging Infrastructure = recharging, charge point, charging

From the content analysis of annual reports, it is possible to show some of the topics discussed. With reference to the risk, sentences discuss certain fundamental issues for electric mobility: the theme of batteries, in particular, their cost and the weak recharging infrastructure. With reference to the strategy, Innovation, Entrepreneurship and Digital Ecosystems

the topics discussed in the sentences are broad, and the most noted are: objectives in terms of production; interest in sustainable strategies for company growth; and the critical factor of success, such as the manner by which to recharge EVs. Regarding the environmental impact, the discussion of automobile companies is focused on and linked to corporate social responsibility. The topics most analyzed are: reduction of gas emissions; alternative sources of energy; stimulating the culture of the green economy; and the role of government policy and regulation to stimulate sustainable mobility. Examining the information features, Table 4 shows that there is no financial information, whereas there is technical information, such as the level of CO<sub>2</sub> reduction and the range in km per single charge. The time orientation is largely (75%) toward historical information. The forward-looking information (25%) refers to business strategies and opportunities. In addition, there is more qualitative information (74%) than quantitative information. Therefore, there is more of a tendency to describe rather than to provide quantitative information regarding the aspects of electric mobility we searched for. Overall, this evidence shows that there is difficulty in providing quantitative information and future information regarding electric mobility. As additional evidence, we report that the information regarding electric mobility is presented at the beginning of the annual report, in the President's letter and in the Management Discussion and Analysis (or Management commentary in the language of IFRS). Often, this information is included in the section that relates to environmental impact and R&D activities, such as, "Sustainability", "Clean mobility", "Eco friendly car", and "Environmental Initiatives". The final part of the analysis is devoted to the relation of economic performance to the emphasis accorded to electric mobility in the annual report (Table 5, Panel A). Using the Spearman's rank correlation index, Table 5 (Panel B) shows no significant link between financial performance and the disclosure of information on electric mobility. The substantial equivalence between the two indicators (the percentage over the total number of pages and the percentage over the total number of words) that we used to measure the interest toward electric mobility is confirmed. Moreover, using total sales as a proxy for company size, we can observe that the theme of electric mobility is not linked to such firm characteristics.

Company Name	Sales (thousand €)	ROI (%)	ROE before tax (%)	ROS (%)	% of pages	% of words
VW GROUP	203,170,000	3.55	13.80	5.66	45.05	0.098
TOYOTA	173,080,000	3.72	10.99	6.36	20.97	0.033
MERCEDES	119,465,000	6.65	23.38	9.38	31.34	0.060
GM GROUP	112,701,764	3.08	17.50	3.30	0.77	0.002
FORD	106,531,073	2.71	26.96	3.73	1.32	0.003
FIAT GROUP	86,884,000	7.98	15.19	4.03	3.83	0.010
HONDA	82,575,000	3.96	7.80	5.52	11.76	0.034
NISSAN	76,691,900	4.09	9.95	5.44	71.74	0.228

BMW GROUP	76,500,000	5.62	22.20	10.71	27.40	0.037
HYUNDAI	59,984,546	6.23	22.52	9.52	20.78	0.058
PSA GROUP	54,109,000	-2.30	-29.12	-2.54	12.16	0.031
RENAULT	41,677,000	-0.23	4.86	-0.42	66.20	0.232
KIA	32,702,045	8.78	23.84	6.67	42.65	0.078
VOLVO	30,773,235	2.08	6.10	2.63	10.10	0.020
SUZUKI	21,337,500	4.61	11.67	4.44	0.00	0.000
LAND ROVER & JAGUAR	18,704,100	13.38	47.30	10.88	32.94	0.048
MAZDA	18,250,000	2.73	7.10	2.45	5.00	0.076
MITSUBISHI	15,021,400	4.63	17.27	3.71	63.64	0.141

Table 5 – Economic performance and indicators of the content analysis of annual reports

Panel A – Economic performance and indicators of the content analysis of annual report

	Sales	ROI	ROE before tax	ROS	% of pages	% of words
Sales	1.0000					
ROI	-0.0733 (0.7726)	1.0000				
ROE before tax	0.1331 (0.5985)	0.7007 (0.0012)	1.0000			
ROS	0.2343 (0.3495)	0.7915 (0.0001)	0.6883 (0.0016)	1.0000		
% of pages	-0.0196 (0.9384)	0.0010 (0.9968)	-0.2941 (0.2361)	0.0010 (0.9968)	1.0000	
% of words	-0.1600 (0.5261)	-0.0134 (0.9579)	-0.2755 (0.2684)	-0.0588 (0.8167)	0.8989 (0.0000)	1.0000

Panel B – Correlation (Spearman's Rank) between economic performance and indicators of the content analysis of annual reports

% of pages = total number of key words / total number of pages in the annual report

% of words = total number of key words / total number of words in the annual report

## CONCLUSIONS

The content analysis of annual reports reveals that, with the sole exception of Suzuki, automobile companies discuss the theme of electric mobility in the aspects we investigated. In particular, it appears that a group of companies (Nissan, Renault, Mitsubishi, Volkswagen, and Kia) is highly interested in electric mobility, whereas another group of business entities (Mazda, Fiat, Ford, General Motors and Suzuki) presents a lower level of emphasis on this theme in their annual reports. The information discussed in the narrative section of the annual reports is primarily devoted to business strategies (64%) and environmental impact (32%), whereas the discourse regarding the risk of the EV market (cost of the batteries, recharging point) is nearly neglected (4%). We interpret this evidence in the framework of legitimacy theory, corroborating our hypothesis that automobiles companies may seek to manipulate

the perception of electric mobility focusing on strategies and environmental benefits for the society, obfuscating issues of concerns such as risks and EVs drivers obstacles. Our evidence is in line with studies confirming the validity of the legitimacy framework in interpreting environmental reporting strategies used by management in corporate annual report (e.g., Campbell, 2003; Hooghiemstra, 2010). In addition, the information features are primarily qualitative (74%) and non-financial (100%), and have an historical time orientation (75%). This evidence is explicable because forward-looking and quantitative information may be private information for each company that, to maintain a competitive advantage, the management may not want to disclose. Regarding the relation between economic performance and the emphasis on electric mobility in the annual reports, it appears that there is no significant association. Moreover, company size is not linked to the level of interest in electric mobility, as revealed by the content analysis. Among the limits of this paper, there is subjectivity in the classification process of the information; however, this is in accordance with our research purpose. In addition, the small number of companies analyzed is a consequence of the automobile industry and European car market that we considered when selecting our sample. Future research implications may be a longitudinal analysis, a comparison with EVs produced by each company, and an analysis of related industries, such as manufacturers of batteries and utilities.

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## E-MARKETING BY ENERGY COMPANIES<sup>1</sup>

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### ABSTRACT

This paper from a brief review of the relevant literature on the energy markets, points out the changes in the relationships between energy companies and customers through the Web. The objective is to highlight the changes of the energy markets thanks to the web demonstrating that it is able to ensure the raising of the switching rates and hence the competition, goal of the liberalization of public services. To this end we will use secondary data from Accenture researches about the perceptions of customers and energy companies around the relations established via the web, and the CUAC for the switching mode performed in the State of Victoria in Australia.

**Keywords:** *E-marketing; E-commerce; Energy Marketing; Energy Trading; Market Of Energy.*

### INTRODUCTION AND MOTIVATION: AIMS AND STRUCTURE OF THE PAPER

The web change radically the social and economic relations. The process of diffusion of the Internet is absolutely unstoppable and promotes the globalization of economies and thus consumption.

The selection of goods and services evolves grafting in this process altering habits and guidelines in the demand for goods and services.

This paper wants to answer certain questions:

- What hinders the growth of commercial relations entered via the Web?
- Has the online channel transformed relations customer-industries also in the energy markets?
- Have these companies hired a relational approach?
- What are the e-marketing policies in the energy companies?
- What does hinder the growth of commercial relations entered via the Web?
- Is the e-marketing a tool to achieve greater competition in energy markets?

The main objective of the paper is to show how e-marketing constitutes a public service such as energy a priority tool to achieve the objectives of liberalization and privatization. In fact, by means of

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<sup>1</sup> The paper is the result of a collaborative work. However it is possible to attribute to Felicetta Iovino results and discussion. The other sections are of Guido Migliaccio.



e-marketing it turns the traditional passive relationship company-customer and the latter assumes a central role in the definition of switching processes.

In the following sections a review of literature on e-marketing of energy companies, highlighting especially the typical problems of management resulting from spreading the web, it is presented. Thereafter the methodology, results and implications are discussed.

## **THEORETICAL BACKGROUND**

The recent international literature can be divided into three main tracks of study: the situation of the energy market, evolution of marketing of energy companies and, in particular, e-commerce development in the sector.

There are many contributions that illustrate the market situation in some countries. For example: Giulietti et al., (2004) on the UK electricity market; Olsen et al., (2006) in relation to the Nordic countries, among the first to develop competition for electricity. Karan and Kazdagli (2011) develop reflections on the energy market in Europe. The theme of the interrelationship between the companies has developed, referring to Spain, Hartmann and Ibanez, (2007).

But the broader and articulated scientific contributions have been the subject of numerous international conferences: the first book of the proceedings of the forum 12TH Croatian energy day about energy consumers in the open market conditions (2003). In it specific references to situations in Spain (Marti, 2003), German (Zijlstra and Čače, 2003), Switzerland (Fuchs, 2003), Bulgaria (Popov et al., 2003), Slovenia (Bakić, 2003) and Croatia (Pešut et al., 2003).

The Book of Proceedings of 12th International Conference on the European Energy Market (2015) with references to Norway (Agrell et al., 2015), Brazil (Kummer et al., 2015), Germany (Metz and Saraiva, 2015), etc. is much more updated, however. Still in the energy market, see: Reyes-Mercado and Rajagopal (2014) which relate about Mexico, and above all, Hollmann et al. (2014) who explaining how the defection decision process unfolds over time in business-to-business relationships. The authors develop a theory on “defection energy”. The research offers marketers insights to improve defection management.

There are more, many writings related to the management and marketing issues. For example, Serna-Suárez et al. (2015) propose some considerations on Microgrid's Energy Management Systems. Matusiak et al. (2015) present the results of the work on Business Models for the e-balance project that aims to create an application for balancing local production and consumption of energy in an intelligent and cost-effective environment. Oliveira (2015) examine how price signals affect investment in renewables using a theoretical model in the tradition of Industrial Economics. Papavasiliou and Smeers (2015): in addition to its adverse impacts on power system operations, the large-scale

integration of renewable energy sources presents market design challenges as it exacerbates the missing money problem by moving value from energy to capacity markets. Among the most important items on the marketing and the energy business it is also helpful to read: Lhoest-Snoeck *et al.* (2015), Purkus *et al.* (2015), Iovino (2012), Do Paço and Varejão (2010), Wiser (1998), Malhotra (1984), etc.

There are, however, still many scripts that analyze the potential of the web for trade relations of energy companies; studies that therefore must necessarily develop. The first writings date back to the beginning of the new millennium: Sioshansi (2000) (urging the energy industry to discover the full potential of e-commerce), Fusaro, P. (2000), and Fusaro P.C. and Wilcox J. (2000). More recent, but still dated essays by Romm (2002) and by Corvi and Bonera (2005). Today, however, the reflections of Iovino (2014), although referring only to the Italian situation. This paper is therefore an original contribution to the limited literature on the web marketing in energy companies.

## RESEARCH METHODOLOGY

The objectives of this paper will be achieved with some theoretical considerations based on some quantitative researches including an updated conceptualization of the literature review and references to some case studies. In economic sciences, quantitative research is the empirical investigation of observable phenomena via statistical techniques. The objective is to develop and employ statistics models pertaining to phenomena. They will then use the data obtained from Accenture researches conducted in the years 2012, 2013 and 2015 related to the web marketing development in the energy companies to track the main implications of the model of marketing policies to be used and its characteristics. Finally, we will use the data from CUAC relating to the State of Victoria, Australia to demonstrate the main purpose of the paper.

## RESULTS AND DISCUSSION

### *Marketing policies implemented in the web: a model of interpretation*

The socio-economic value production over the web has become central to the need of a customer-centric approach rather than content-centric (Rover, 2013). In this way, the customer relationships both current and potential will tend to become long-term relationships that despite temporary interruptions in these relations will continue by virtue of the social bonds created (Havila and Wilkinson, 2002). Relationships may be reactivated subsequently also for the economic aspects due to the business relationship Energy that is not destroyed when the commercial relationship is temporarily suspended. The company that developed positive bonds can be in fact effectively fed with appropriate marketing policies implemented via the web. To this end it has been proposed (Iovino, Innovation, Entrepreneurship and Digital Ecosystems

2012, 2014 and 2015) a unified conceptual model to highlight the main variables implemented in the websites. For mass communication and branding for online businesses also they have to assert its brand targeting all stakeholders, in particular customers. The main elements provided on line are due to institutional communication, general information services, communication and presentation of the company. In this way, the company has the objective of strengthening the brand image (Accenture, 2013) and consolidating the trust in both the enterprise giving up its global offering. This is confirmed by a search Accenture (2012) carried out on a sample of American and English customers, confirming all (with percentages above 50%) of the strong influence of the web on their purchasing habits with an increase of the same and the prevailing positive perception of business presence in marketspace. In fact, the data confirm that internet marketing allows better communication and a greater choice with an obvious increase in the bargaining power of customers, as evidenced by the following figures (Fig. 1-2).

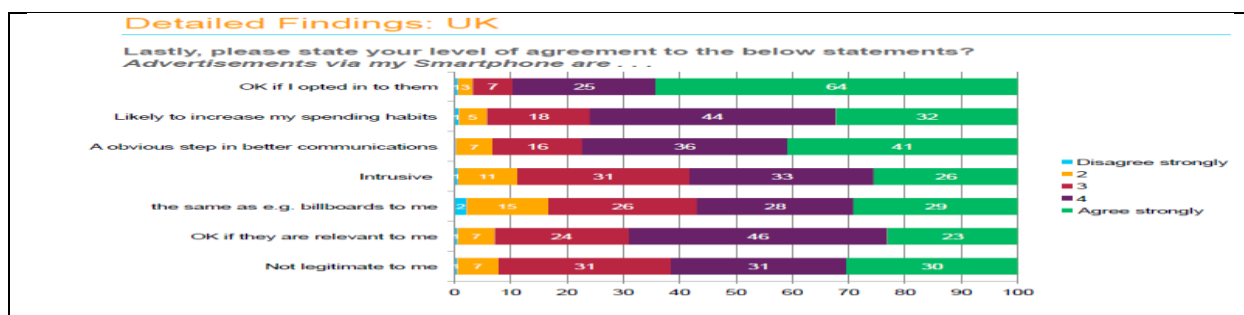


Figure 1 – Source: Accenture interactive survey results, 2012

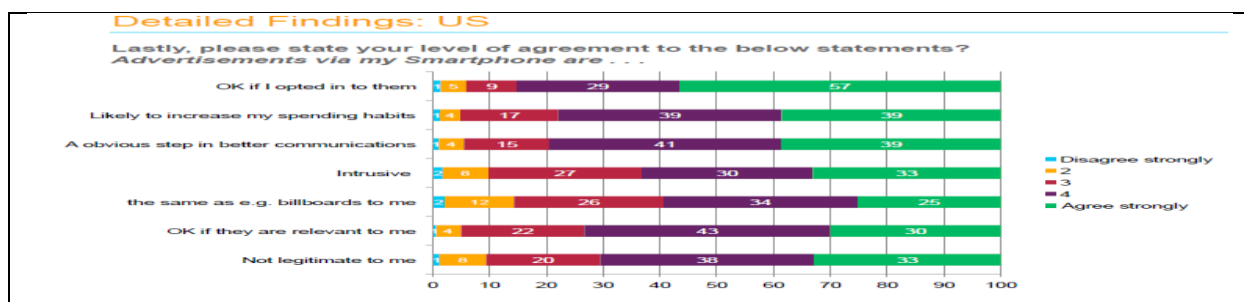


Figure 2 - Source: Accenture interactive survey results, 2012

The same data is also revealed a considerable percentage of customers who negatively perceive the brand policies and mass communication highlighting the need that its design is made in a customer-centric approach rather than firm based. The offering of value and pricing are the other online policies implemented, which is the price and the offer is not limited to the core service, but is characterized by a range of additional services (Mele, 2003) who have the ' goal of creating mechanisms of lock-in (Cerrato, 2004). In this way, the company is able to co-create an personalized offer through the profiling and segmentation of customers as a result of online tracking processes. In this sense, the research Accenture (2012) shows the strong consumers participation in such processes, as almost all, 85%, is aware that the online tracking allows you to receive personalized offers (Fig. 3).

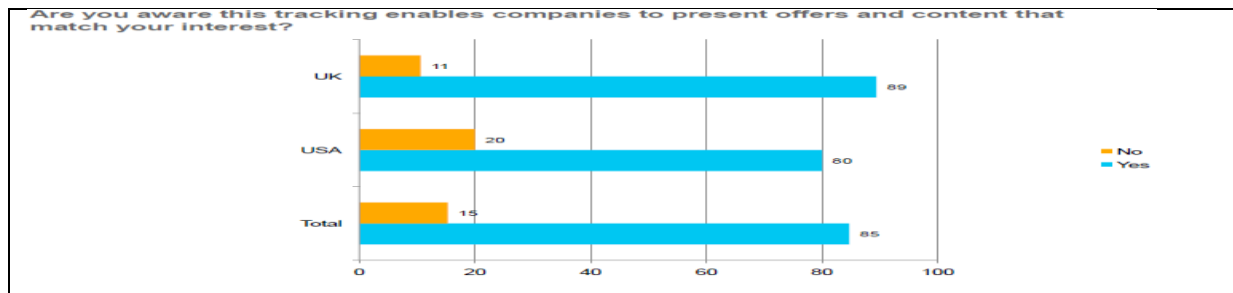


Figure 3 – Source: Accenture Interactive survey results, 2012

However, consumers have a similar extent (86%) concern for their privacy and therefore their overall browsing experience (Fig. 4).

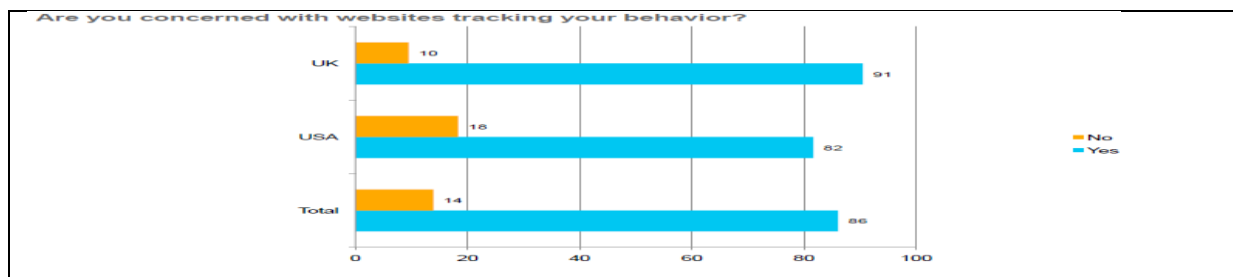


Figure 4 – Source: Accenture Interactive survey results, 2012

However, the web attaches considerable transparency to marketplace compared to the marketplace by allowing customers to make price comparisons in a global market, but also the characteristics of the offer by reducing information asymmetries and transaction costs (Buzzavo, 1999). In this sense, the Accenture research (2012), which notes that 72% of the sample using their electronic devices to perform a price comparison, while in the store. Then, the integrated management of the online channel, with the off-line is critical to increase the levels of fidelity to the company (Iovino, 2014) (Figures 5 and 6).



Figure 5 – Source: Accenture Interactive survey results, 2012

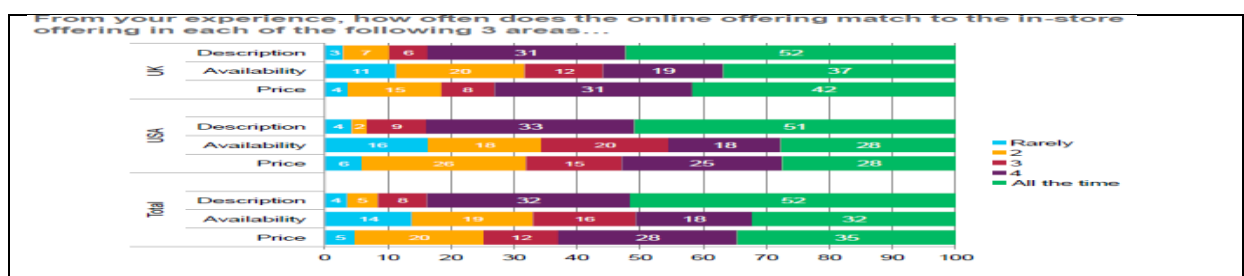


Figure 6 – Source: Accenture Interactive survey results, 2012

The distribution is the other online implemented policy, in fact, next to the physical distribution was accompanied by the virtual possible with new technologies (Heikkila, 2002). In this sense, the web allows a considerable reduction of the costs of coordination, and the transaction and switching costs through a real-time information flow capable of ensuring dynamism and flexibility to the distribution chain and the reduction of lead times (Auramo et al. 2005). The research data Accenture (2012) confirm what the web is through PC through mobile devices ensures an integrated experience for 43% ensuring a higher level of satisfaction compared to traditional media (Fig. 7).

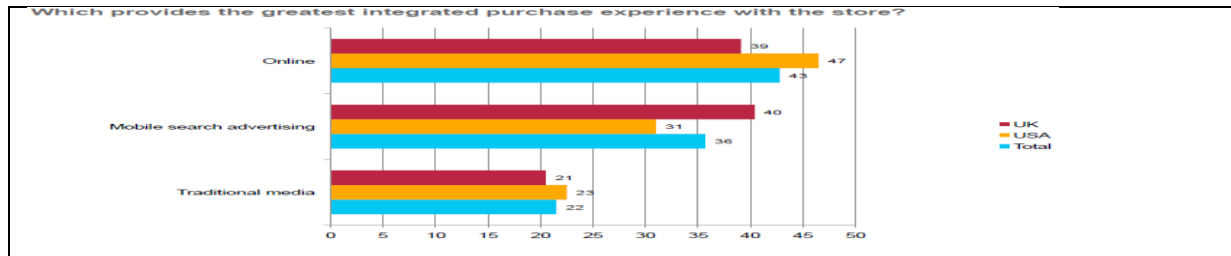


Figure 7 – Source: Accenture interactive survey results, 2012

The customer care, which is the one to one communication is implemented on line. This policy significantly defines the functional quality, ie the way in which the service is offered, a critical variable for consumer choice (Gronroos, 1996). Through the interactions and information collected online the company can also customize the relationship with individualized offers reducing the defection energy (Hollmann, 2014). On the other hand, consumers prefer for 47% the web channel as a link with the company (Accenture, 2012), because it guarantees the autonomy claimed in a complex relationship between customer and company (Fig. 8).

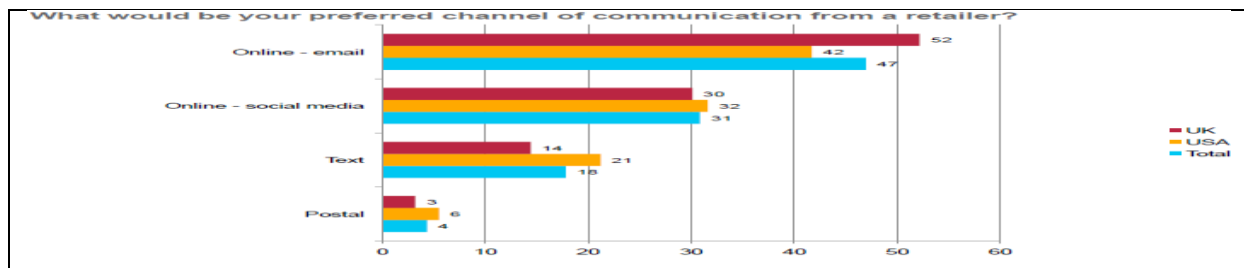


Figure 8 – Source: Accenture interactive survey results, 2012

The implementation via the web marketing policies is also confirmed by further research Accenture (2015) finds that for most managers of content and networking activities have grown considerably compared to the previous two years to 92% and that 83 % believe that the figure is likely to increase further over the next two years. limited, however, is the assimilation of a relational approach of customer-centric essential for proper development of the web marketing policies (Iovino, 2014 and 2015; Wiser, 1998). In fact, the data (Accenture, 2015) which define the effectiveness of the marketing policies of the web is measured primarily by the companies through indicators not focused on the durability of the relationship with customers (Fig. 9).

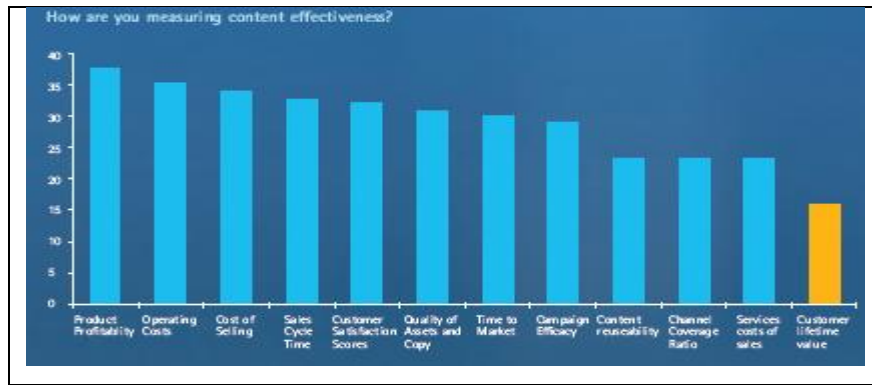


Figure 9 – Source: Accenture Interactive state of content, 2015

### *E-marketing of energy companies: a tool for switching*

E-marketing, which application of the paradigm of relationship marketing, is an indispensable tool for the attainment of the objectives of the various legislative measures implemented (Iovino, 2012, 2014 and 2015). In fact it helps to increase the competition among operators on the energy market and thus to greater efficiency and quality for customers. It is therefore arguable that marketing policy implemented in the web by energy companies are one of the main tools of the competition by determining the elevation of the switching rate.

E-marketing is implemented for this purpose with their sites and partners implementing the web most of the operational and strategic tools of their marketing.

Not allowing the only physical distribution so the core service, the web, can deliver additional services with significant savings of resources. In this way, energy companies have a significant impact on satisfaction and therefore the loyalty of its customers both current and potential.

The interactivity of the web in fact defines the functional quality which is crucial to raise the level of customer satisfaction and loyalty of customers in energy markets, unlike the technical quality deemed acquired (Drummond and Hanna, 2002). Consumer preference for the Web is witnessed by Accenture Research (2012 b), as can be seen from Figure 10.

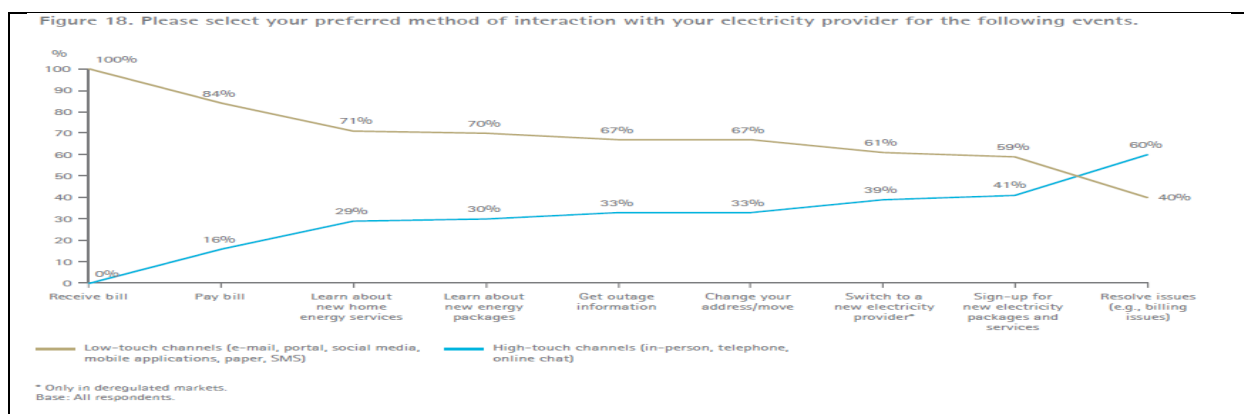


Figure 10 – Source: Accenture actionable insights new energy consumer, 2012

For almost all of the events indicated as we can see is the preferred electronic channel than the traditional, with a percentage of 61% by switching to a new electricity supplier confirming our thesis.

These directions are further confirmed by figure 11 relative to the individual channels, precisely because the switching decisions are determined by a multiplicity of elements related to the complex relationship (Iovino, 2012, 2014 and 2015; Hollmann, 2014).

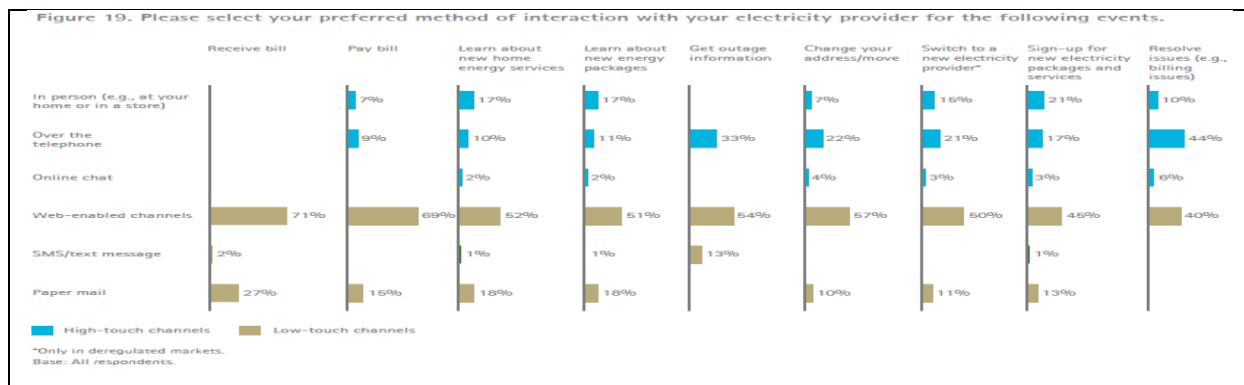


Fig. 11 – Source: Accenture actionable insights new energy consumer, 2012

It is noted however, that for more complex issues such as those relating to billing there is a slight prevalence of telephone contact (44%) and that of the person (10%) compared to the web channel (40%) although whereas, however, with the latter also figures concerning preferences for online chat, the difference between the channel types is reduced significantly. Previous data thus confirm the transformation to energy companies that occurred in the relationship with its customers both current and potential. The web has made it so much dynamic that report. The customer increasingly sophisticated and demanding research to solve their problems and especially the ease of use of technological means employed and the protection of their privacy. Navigability, usability and ease of access to the site are the main characteristics sought (Iovino, 2014) in order to raise the level of customer experience and therefore customer satisfaction that translate into loyalty to the site and therefore the company. In this sense, the data in the figure 12 indicates the main characteristics sought in electronic channels. Levels of satisfaction in fact, have a positive effect on switching (Reyes-Mercado and Rajagopal, 2014).

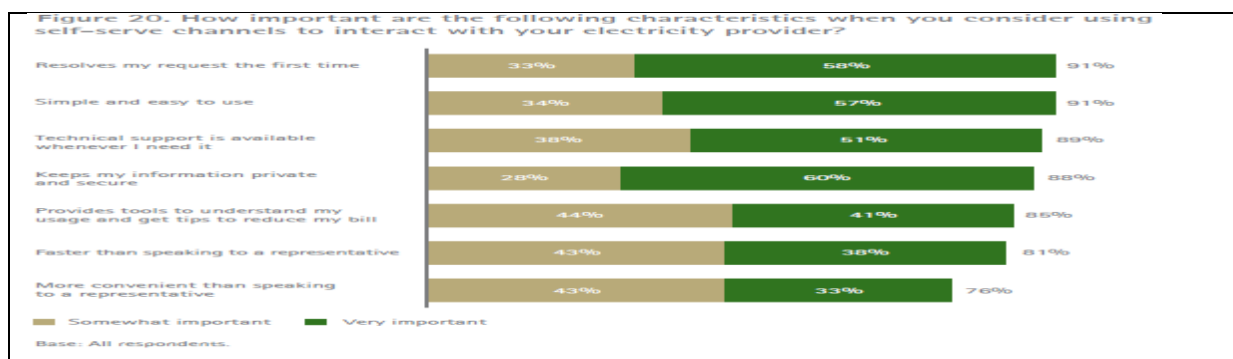


Figure12 – Source: Accenture actionable insights new energy consumer, 2012

Possible interactions through the web are not the only one to one or one to many, but also many to many (Novack, 1996). In fact, in addition to also social media websites have assumed an important

place also for energy companies, its use is around 30% according to Accenture research (2012b) (fig. 13).

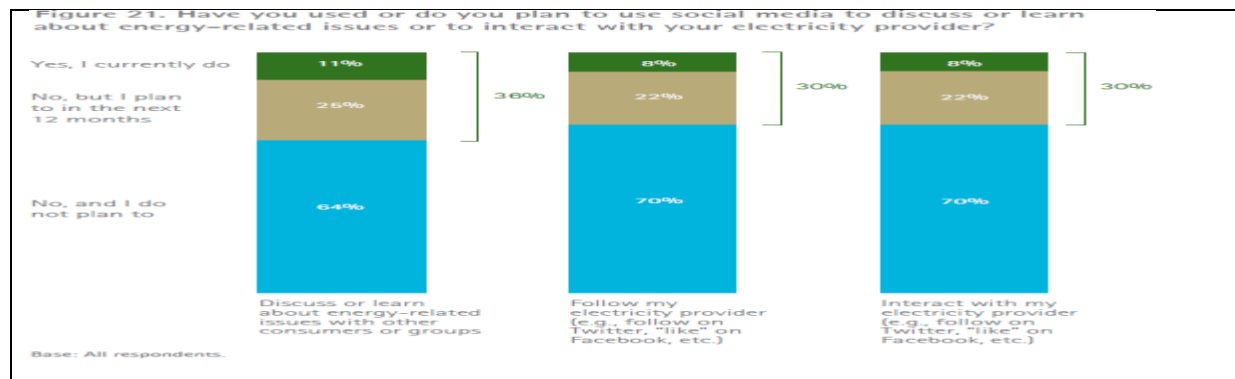


Figure 13 – Source: Accenture actionable insights new energy consumer, 2012

Even with social media the customer search experience where the quality of customer care is prevalent. In fact, as much as 50% considers it a priority the provision of a fast and efficient service from your energy supplier. The other answers point out how relevant additional services also offered in partnership with other companies to increase the overall value of its offer (Iovino, 2012). It is confirmed that the web has taken on a major role in the energy market by improving switching and raising the competition between operators. According to research by CUAC (2012) relating to the energy market of Victoria, which has the highest rate of switching in the world notes that the information collected for switching decisions are made for the 20% by comparison / service switching and for the '11% by the operators sites (Figure 14).

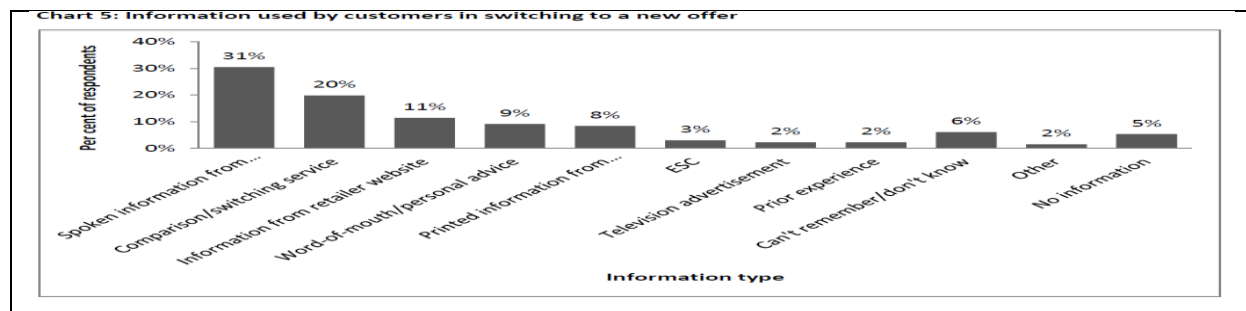


Figure 14 – Source: CUAC, 2012

The main reasons for the switching are made by the will to get a price savings (Iovino, 2012) as shown in Figure 15.



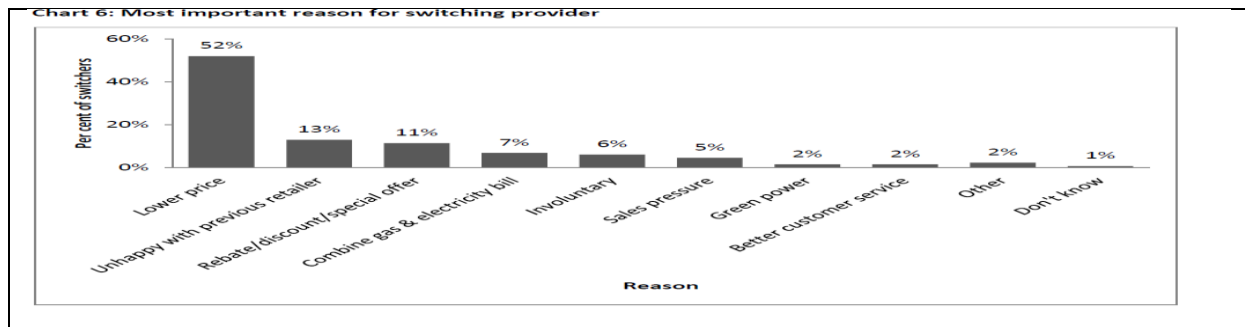


Figure 15 – Source: CUAC, 2012

A significant role in the energy market is therefore assumed by comparison sites of the offers of different operators. These sites and those of energy companies must ensure transparency and completeness of the information provided through appropriate cooperation between market regulation authorities and businesses.

## CONCLUSIONS

All major business functions are concerned, for different reasons the use of the web but, probably more than other marketing, considering the numerous channels of communication and relationship that the Web favors. The relationships via the Web in fact, appear for consolidation, despite interruptions and customers also require transparency in prices and terms of sale accessory conditions, together with ease and speed of communication with the tenderers.

However, there are serious concerns regarding the protection of privacy and tools that sometimes appear complex for inexperienced users.

The large availability of information favors the consumer switching to a new supplier quickly, even considering the possibility of adding to the IT channel traditional instruments such as the telephone contact and direct. Energy companies have therefore in web marketing a key competitive tool. In fact, the core service differentiation appears substantially negligible because consumers believe the equivalent supply of electricity and gas of different operators. However through their web marketing companies realize substantial differentiation through additional services and marketing policies implemented by means of the web. In this way, the rate of switching increases mainly determined by savings goals. A growing space are having even social media, contributing to the significant development of social marketing among energy companies. Not everywhere, in fact, the transition from the field "protected" to the free market occurred completely. Numerous legislative and bureaucratic obstacles hinder a constant and growing trend that seems to further disengage from regulatory limits can not be justified.

The paper presents a unified conceptual model in which the main e-marketing policies are located. further investigation will be necessary 'to monitor the choices of operators and customers, especially distinguishing between different geographical areas and customer segments.

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## CHALLENGES FACED BY NOT-FOR-PROFIT ORGANIZATIONS IN INDIA

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### ABSTRACT

Not for profit organizations or non government organizations (NGOs) in India play a crucial role in development of the economy. The literature review establishes that a myriad of challenges are faced by them in sustainable growth.

This study focuses on the 'Challenges faced by not-for-profit organizations in India.' The perception amongst the leaders of not-for-profits on various dimensions of the challenges is ascertained through the administration of a primary research. It uses a scale created by the authors, based on the literature review. The exploratory study of 30 founders, found that on various dimensions of challenges faced by them the difference across the age, size & number of employees of the not-for-profit is not statistically different except for a few dimensions.

**Keywords:** not-for-profit and challenges faced by not-for-profits

### OBJECTIVE OF THE STUDY

The paper aims to identify and study the significance of different classes of challenges faced by the not-for-profit organizations. It also aims to study the difference in impact of those challenges towards the not-for-profits of varying demographics.

### INTRODUCTION TO NOT-FOR-PROFIT ORGANIZATIONS

'Man is a social animal': A very famous saying explains that human beings prefer to live in groups to fulfill their socio-economic and political interests. As a result, civil society and voluntary organizations (VO) emerged. The most commonly used term for VOs is "Non-Government Organizations" or NFPs. NFPs are agencies formed with a vision by a group of likeminded people, committed for the upliftment of the poor, marginalized, unprivileged, impoverished, downtrodden and the needy. They are close to and accessible to the target groups. They are organized around specific issues, such as human rights, environment, education, livelihoods or health. While most of them work at the grassroots level with the communities, some provide analysis and expertise, serve as early warning mechanisms and help monitor and implement international agreements too. The World

Bank definition used by the Operations Evaluation department defines them as "private organizations that pursue activities to relieve suffering, promote the interests of the poor, protect the environment, provide basic social services, or undertake community development". The non-profit-making qualifier is an important attribute. They display basic characteristics of: being non- governmental, voluntary, non-commercial, accountable & non political (Mustagisur, 2003: 55).

The types and structures of not-for-profits vary considerably. Basically, there are three types: grass-roots organizations, support organizations and intermediary or mid-level organizations (Mustagisur, 2003). With the improvement in communications, more locally-based groups referred to as grass-roots organizations or community based organizations have become active at the national or even the global level. Increasingly this occurs through the formation of coalitions with other similar organizations for particular goals (Mostashari, 2005). Literature reveals that their categorization is still developing and every researcher has his/her own category. They are regarded as a force for good by virtually all nations in the world. As a whole, this sector is considered as the "third sector," while the government and the private sector are the first and second sector, respectively (Brown and Korten, 1989; Mostashari, 2005). It is difficult to categorize them by their specific activities; as many of them perform a variety of activities and often shift the balance of activities they pursue. However, in broader terms, most of them can be classified into two groups: operational and advocacy based. The operational categories have to mobilize resources, in the form of financial donations, materials or volunteer labor in order to sustain their projects and programs. The advocacy related carry out much the same functions but with a different balance between them (Mostashari, 2005). Both of them are under rising pressure to better allocate and manage their limited resources. An effective and common management approach in complex situations is thus crucial. They face complex management issues, both at a personal and organizational level. Some face increasing competition from the private sector and certain member states. Therefore, their role in the developing world is not always as effective as possible (Lewis & Kanji 2009).

The rapid growth of this sector has been clearly revealed in a major multi-nation study conducted in 1997 by Anheier & Sokolowski who find it as a major economic and social force. Their presence, especially those engaged in developmental efforts, has been strongly felt during the past few years. In fact, their involvement in development especially in India has become indispensable today. NFPs have catered to the needs of the marginalized and poor, and entrepreneurial businesses in the NFP sector have fueled economic growth and prosperity in India (Handy et al, 2007). As per one conservative estimate, they total over 0.2 million. This figure excludes organizations like trade unions, schools and hospital but includes only those registered for certification for receiving foreign assistance. The workforce as percent of economically active population in India is 1.55% excluding the

religious worship organizations (Sanders and et.al. 2008). The magnitude of funds this sector handles today is an index to this growth. The annual budgets of these organizations are now not a paltry sum but range from Rupees thirty million to five thousand million (Latha and Prabhakar 2010).

Today, they assume an important role in the various developmental programmes and activities in the country. However, in spite of their achievements in various fields, they face different challenges which differ from organization to organization & region to region. The challenges analyzed widely include: fiscal, competition, effectiveness, technological, accountability, human resource, and identity crisis (Ahmed, 2005). Challenges facing NGOs in resource mobilization are external & internal. Based on the literature review, the authors formulated the following framework depicting different classes of challenges faced by the NGOs.

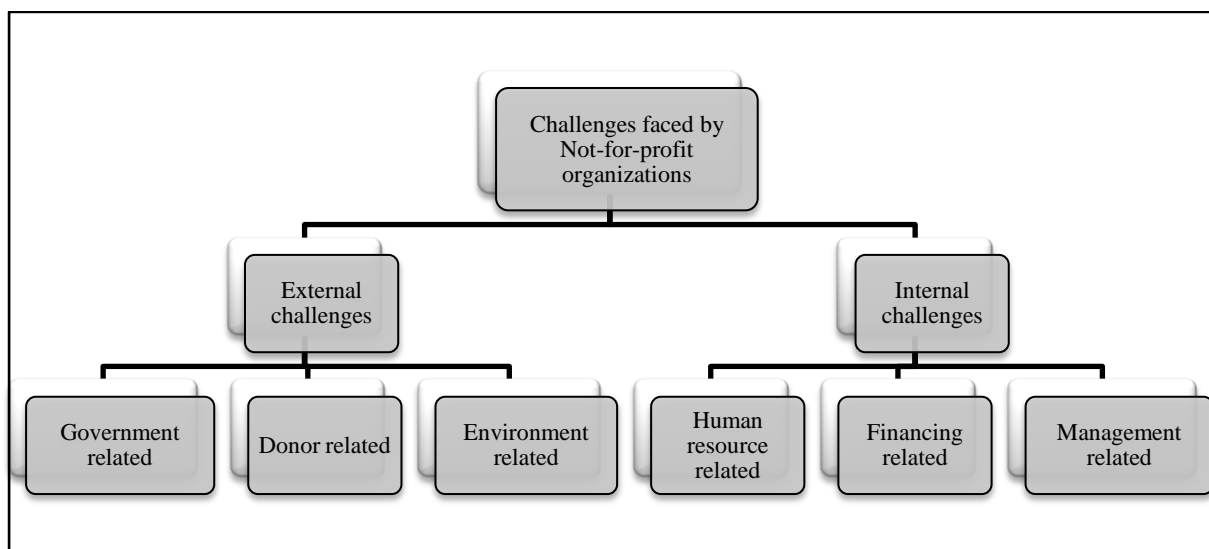


Figure 1 - Framework of challenges faced by not-for-profits

The challenges can be broadly classified into internal and external ones. The external challenges can be related to government, donors or environment. These include donor country priorities changing, criteria being used/applied to organizations, donor's conditional ties, political interference, rules & regulations within a country for accessing government funds, donor prejudices, natural & manmade occurrences, competition from political NGOs, competition from NGOs in the same sector and the type of network involved in.

The internal challenges can be related to human resource, financing and administration. These include capacity limitation within organizations, accountability & transparency, founder syndrome, inadequate strategic and operational plans, inadequate networking skills, inadequate awareness on available opportunities, governance, minimal communication and branding (Batti, 2014).

## EXTERNAL CHALLENGES

### 1. *Government related:-*

1.1. *Problems in registration due to the presence of stringent laws and regulations:* Registration is a key challenge. Hence many of them remain unregistered. Bromideh A.A. (2011) expressed that "... despite the availability of five possible authorities to register, the registration is the most difficult and a bureaucratic process."

1.2. *Relationship with the government:* Maintaining a good relationship and finding support with the government is a critical success factor for them. To facilitate this, they must have a delegate from the government body on their governing board, which undermines their independence. Lu J. (2015) notes that nonprofits with a greater bureaucratic orientation, stronger domain consensus with the **government**, and possessing a longer **government** funding history are more likely to receive **government** grants. Whereas Ahmed 2005 in his study found that public relations was listed as a required competency only by a few organizations, though most not for profits have to liaise with the government & external agencies.

1.3. *Political interference:* Government policies and political climate increase the bureaucratic red tape NFPs face in mobilizing resources from abroad. In case of political instability, donors refrain from providing funds & enforce stringent measures of compliance.

1.4. *Stringent government policies reduce accessibility to funds:* They find it cumbersome to access funds due to stringent government policies. The World Bank operations evaluation department studied and found that the biggest constraint on participation of NGOs was government skepticism about participatory approaches with not-for-profits (World Bank, 2002). Often non-profits compete with for-profits for government grants and contracts, Ahmed (2005).

### 2. *Donor related*

Several donors insist on special financial controls or management reforms in the organizations they fund (Keating & Frumkin 2003). Donor contributions have been reducing considerably, earlier they would get a significant contribution from a single donor (Katz, R. D. 2005). Study results suggest that dependency and funding source play an important role in non-profit organizations Anheier & Sokolowski (1997). Koenig 2015 states that **applying for grants is hard work. Often** nonprofits don't have their data organized, hence are unable to apply for a grant.

2.1. *Donor country priority:* Donors often dictate areas where funding would be utilized. Hence they find it difficult to obtain these funds. Thomas (2008) noted that they faced shortfalls when the major bilateral donors were shifting priorities towards economic development and to others outside the traditional scope of the organization.



2.2. *Donor preference for area of interest:* Donors' preferences have continued to change and have become increasingly selective. Their sustainability and survival is strongly dependent on a close and trusted donor relationship. Sargeant (2001) states that one in five **donors** might not continue the donation probably due to a change in financial circumstances while others may donate to other organizations. Silke & Scherhag (2014) recommend that managers should work with a few **donor** levels and determine carefully the benefits to be offered to the different levels.

2.3. *Donor conditional ties:* In the donor world, the funding trends are changing. Donors often use basket funding or sometimes prefer funding government institutions. This results in competition among not for profit & the government that have better resources and capacity to mobilize resources. Капыре, (2013) states that restrictions placed on organizations for example not allowing them to engage with another donor during the period they are funding the organization also affects not-for-profits from diversifying their donor sources. Donors can impose restrictions on how contributions are used. These restrictions often limit the nonprofit. Often they are expected to retain the donation in perpetuity and use only the earnings from the donation.

2.4. *Donor prejudices:* Possessing a good past track record is a prerequisite to easily access resources; here donor recommendations play an important role. Donors lack of awareness about small, unknown not-for-profits results in a skewed funding process. Additionally, the findings of the study by Chelliah, Boersma & Klettner, (2015) suggest that funding dynamics can negatively impact accountability and governance. It often gets complicated when the largest donor is the government. Calabrese, (2011) suggest that donors penalize, when wealth levels are deemed excessive and often future contributions by donors are negatively affected.

One of the recommendations of the operations evaluation department was that the World Bank, develop strategic partnerships (both operational and advisory) with donors, foundations, and others with comparative advantage in knowledge and experience working with NGOs to ensure successful World Bank-NGO collaboration (World Bank, 2002). An example would be the CSR of Tata steel supports NGOs (Kansal & Kaur, 2016).

### 3. *Environment related*

3.1. *Presence of political not-for-profits:* Both normal & politically backed not-for-profits compete for the same funding, but often political not-for-profits gain an upper hand due to their influence.

3.2. *Intra sector competition:* Many NFPs service similar communities & often compete for funds rather than collaborate. McLeish (2010), states that nonprofit groups compete with each other in roughly four areas: quality of programs or technology, positioning of programs or products, quality of support services and price

3.3. *Lack of public participation:* They fail to engage and attract people, factors responsible for this are; disinterest of the people, over emphasis on targets, time bound programs, political interference, vested interests and easy availability of funds.

3.4. *Lack of volunteerism for social work:* Historically, volunteerism has been high in this sector. With the advent of professionalism, it is taking a backseat. A United Nations development programme report states that, attracting a steady flow of volunteers is a concern, their engagement too is erratic and attrition is high. Youth today have a constant pressure from their families to excel in studies and acquire skills which will generate job opportunities. Hustinx (2001) notes that modernization and individualization has lead to more of an episodic, non-committal and self-oriented types of participation.

3.5. *Centralization in urban areas:* Their presence in urban areas is far more than rural areas. Employee's awareness of rural communities is limited; they refrain from working in rural areas as they are unable to access minimum comfort levels for themselves.

3.6. *Natural calamities and disasters:* Many of them have limited experience in disaster management. Donors abstain from funding countries experiencing disaster and conflict.

## INTERNAL CHALLENGES

### 1. *Human Resource related*

Rodwell & Teo (2004) conclude that, adopting a strategic human resource management could increase organizational performance of NFPs. As non-profits grow and become increasingly complex, the funding organizations demand stringent accountability hence they have to create systems & processes similar for-profit businesses (English, 2016). Borgmann & Bormann (2014) conclude that practitioners first utilize leader member exchange followed by transformational leadership and leader member exchange to improve human resources.

1.1. *Founder syndrome/Monopolization of leadership:* Often authoritarian leaders lead this sector and tend to control & manage rather than encourage democratic leadership.

1.2. *Lack of leadership:* Their success is determined by its leadership team. Mostly they are cause driven & the leaders' skills do not match the expectations of the younger team members' ideas & innovations. The style of functioning of these senior people exhibits authoritarianism and frustrates younger people who are embodiments of new ideas, initiatives and innovation which are not allowed to be expressed and practiced (Mehta et al., 2010). Katz (2005) recommends that not-for-profits change their management like for profits to meet their goals.

1.3. *Inadequate trained personnel:* A large component of employees is volunteers. Rates of pay are often relatively low, necessitating forms of human resource management that emphasize non-financial

means of eliciting employee motivation and commitment (Alatrasta & Arrowsmith 2004). Most resources join the sector with little or no education or training in this sector. Trained professionals have high expectations in terms of salaries, status, opportunities for their career growth and are often poached by others. They do not have budgets for capacity building. Often in human resource management, there exists a barrier in the measurement of performance in this sector (Macpherson, 2001). Ahmed (2005) reports that there is a lack of emphasis on education for CEO roles. D'Cruz (2003) found that Indian women founders in the NFP sector, did not always aspire to be entrepreneurial in fact many of them were not highly educated and had no particular skills in running businesses but acquired skills through learning by doing.

## 2. *Financing related*

2.1. *Lack of funds:* A major challenge faced by them, are the scarcity of funds. Government does not provide full grants in aid or delays in the sanctions of grants. Additional funding needs to be raised. Organizations & people today are far more stringent in their donations. They have to deal with smaller funding budgets and are feel the pinch as they have to implement business practices that will ultimately make them more accountable, profitable and attractive to prospective business partnerships, hence Goerke (2003), recommends the appointment of a business development manager.

2.2. *Financial accountability and transparency:* They have limited professionalism. Periodic impact measurement also is not conducted. They are more focused on cause-driven activities rather than keeping their financial systems in place. Hence the transparency and trust becomes a challenge. The accountability of nonprofit organizations, particularly the adequacy of current reporting is a concern which has resulted in financial scandals. As they are cash constrained they operate with a small internal accounting staff. Volunteers perform this role regularly. Financial documents are often manual or in low cost software packages and leave a scant audit trail (Keating & Frumkin 2003).

2.3. *Misappropriation of funds:* Handling the finances is a challenge. Rampant misappropriation of funds has been observed resulting in a poor image. Government grants specially are the main culprits. Mixing of foreign and domestic funds or use of the designated foreign contribution (FC) for a different purpose too occurs.

## 3. *Management related*

3.1. *Scarcity of human resources:* A significant scarcity exists in obtaining human resources, as NFPs have limited funds. People and a good vision are an important element for their improved execution (Katz, 2005).

3.2. *Absence of a focused strategic and operational plan:* Often they tailor make their plans to attract donors, rather than focus on the communities, resulting in a deviation from realistic goals. They are

inclined towards cause driven activities & hence do not focus on the long term planning. This is an irony in not-for-profits. The study conducted by (Keller, 2011) demonstrated that management practices have a "hard impact" on the bottom line.

3.3. *Lack of networking skills:* New donors are keen on funding organizations that are in networks or working together or have a robust impact measurement process or have been accredited by agencies. Miller (2011) recommends that they can focus on building awareness, sharing their story, cultivating donor relationships and establishing an open communication process through social media. The case study by (Mukherjee, 2014) states that the NFP being studied, was not investing to create new relationships; rather it was mining the relationships forged over the past few years.

3.4. *Inadequate awareness on available opportunities:* They fail to utilize opportunities that are available as they are unaware of the opportunities that exist.

3.5. *Governance:* The boards provide limited strategic leadership for their working. The governance structures and instruments such as constitutions, policies and guidelines are required to mobilize resources. Governance requirements and structures have historically tended to be ignored in non profits (Wells, 2012).

3.6. *Modernization:* Grants in aid are used for routine administration and are hardly allocated to introduction of technology & professionalism to support modernization. Schneider, J. A. (2003) argues that staffs of minority not-for-profits have limited familiarity with new **technologies** and this result in them having limited fund raising ability. The National Strategy for Non-Profit Technology report that non-profits are hesitant to use technology and have limited knowledge of its impact (NSNT, 1999). Nonprofit technology network (2015), classify organizations into leading & struggling organizations based on technology. They report that the "Leading" organizations on an average have more total technological staff than those at the lower levels on the technology adoption curve due to the presence of varying technology budgets. Also, there was very little difference in staff expenditure between very large and small organizations with respect to IT.

3.7. *Lack of co-ordination:* They are required to coordinate with various agencies like the central & state government, corporate social responsibility departments of organizations and the community. One sees a lot of duplication & coordination issues in this area. Additionally, the study by (Wang & Ashcraft, 2012) concludes that courses in non-profit management should include areas of financial literacy, verbal and written communication, knowledge of laws and regulations pertain to the nonprofit sector, general leadership skills, information technology, volunteer management, and fund-raising and donor cultivation.

## RESEARCH METHODOLOGY

It is estimated that there are thirty one lakh NGO's operating in India, though it is difficult to estimate the exact number (Anand, 2015). Unfortunately, there exists a limited reliable database of NFPs from which to draw such a sample. Existing lists are limited in their scope and tend to contain many inaccuracies thus require considerable purging and correcting. The author sought to identify them by collecting lists from multiple resources and cross checking them. Convenience or judgment sampling was utilized. The sampling frames consisted of websites of; Indianngos.com, lists from Give India, booklets which contained listing of NFPs, participants of conferences on social sector, lists from business associates in the sector and authors personal business contacts. The respondents were selected from these lists.

On the basis of the literature review, sixty challenges were identified and an exploratory research was conducted. A questionnaire was prepared to gauge some basic demographics of the not-for-profits and the perception of the thirty respondents (founders/leaders) towards these challenges was recorded on a five-point Likert scale, where '1' meant strongly disagree, '5' meant strongly agree with '3' being neutral.

For the ease of analysis, on the basis of the literature review, these sixty challenges were then factored into fifteen factors (as per Annexure 1) which represented the major challenges faced by the not-for-profits in India. The reliability of these fifteen factors has a Cronbach alpha / coefficient alpha of .928. So it is concluded that the test is 92.8% consistent in measuring the construct.

Hypotheses were designed and a quantitative analysis was carried out using tools like MS-Excel and SPSS. Demographics like the organization's working age, their annual turnover and the size in terms of total employees were recorded on a ratio scale and later converted to nominal scale for the purpose of analysis.

## DATA ANALYSIS

### *Descriptive analysis*

The thirty NGOs under study have been categorized on the basis of age, annual turnover and size. The table 1 below gives the details about the categorization.

Table 1 below gives the categorization of the Not-for-profits under study

Parameter	Basis of categorization	Category	Description
Age	Year of establishment	Old	1990 and before that
		Medium	1991 to 2005 both inclusive
		New	After 2005
Annual Turnover	Annual turnover in INR	Low	Less than and equal to 50 lacs
		Medium	Greater than 50 lacs and less than or equal to one crore
		High	Greater than one crore
Size	Total number of employees	Small	Less than and equal to 100
		Medium	Greater than 100 and less than or equal to 500
		Large	More than 500

Table 1: Categorization of the Not-for-profits under study

Table 2 gives the descriptive analysis of the sample

Sr. No.	Parameter	Categories	Total no.	Percent
1	Age	Old	9	30
		Medium	11	36.67
		New	10	33.33
2	Annual Turnover (in INR)	Low	14	46.67
		Medium	7	23.33
		High	9	30
3	Size	Small	14	46.67
		Medium	11	36.67
		Large	5	16.67

Table 2: Descriptive information of the sample

The authors have taken responses from thirty respondents belonging to NGOs of different size, age and annual turnover. However, they have tried to maintain a balance so that the results are not skewed.

One of the characteristics of this sector is that, it is labor intensive hence the size of the workforce of the not-for-profit was used as a critical indicator of the level of activity of these organizations (Sanders et.al. 2008).

### *Hypotheses*

The following hypotheses have been designed in context to the literature review above. The paper is about identifying the major challenges amongst the pool of challenges discussed above and how several factors impact the significance of those challenges for the not-for-profit organizations.

1. Ho: The average perception of the respondents towards the different challenges is neutral, that is equal to 3

H1: The average perception of the respondents towards the different challenges is not neutral, that is not equal to 3

2. Ho: The average perception towards the various challenges with respect to the age of the not-for-profit is not different

H1: The average perception towards the various challenges with respect to the age of the not-for-profit is different

3. Ho: The average perception towards the various challenges with respect to the turnover of the not-for-profit is not different

H1: The average perception towards the various challenges with respect to the turnover of the not-for-profit is different

4. Ho: The average perception towards the various challenges with respect to the size of the not-for-profit is not different

H1: The average perception towards the various challenges with respect to the size of the not-for-profit is different

1. *Objective:* To identify the favorable and unfavorable perception of the respondents towards the various challenges faced by NFPs in India.

Factor	p-value	Inference
Government policies	0.853	Ho is accepted @ 5% level of significance
Relationship with government	0.661	Ho is accepted @ 5% level of significance
External relations	0.000	Ho is rejected @ 5% level of significance
Global donor country priorities	0.001	Ho is rejected @ 5% level of significance
Donor preferences towards area of interest	0.000	Ho is rejected @ 5% level of significance
Donor prejudices	0.000	Ho is rejected @ 5% level of significance
Competition from other NOT-FOR-PROFITS	0.001	Ho is rejected @ 5% level of significance
Lack of volunteerism/public participation	0.194	Ho is accepted @ 5% level of significance
Centralization in urban areas	0.010	Ho is rejected @ 5% level of significance
Leadership	0.005	Ho is rejected @ 5% level of significance

Human resource	0.001	Ho is rejected @ 5% level of significance
Lack of funds	0.000	Ho is rejected @ 5% level of significance
Financial accountability and transparency	0.000	Ho is rejected @ 5% level of significance
Limited strategic and operational plans	0.010	Ho is rejected @ 5% level of significance
Technology	0.000	Ho is rejected @ 5% level of significance

*Table 3: Favorable & unfavorable perception of respondents towards the challenges faced*

From the above table, it is noted that the p-value is greater than alpha, that is 0.5 for 3 factors of challenges namely, government policies, relationship with government and lack of public participation/volunteerism. So it can be said that the null hypothesis is accepted and hence it can be concluded that the respondents feel that the challenges related to these 3 factors are insignificant while those related to the rest of 12 factors are significant.

To find out the significance of other factors, the mean values were computed from the one-sample statistics table below.

Factor	Mean value	Inference
Technology	4.26	Most significant
Donor Prejudices	4.17	Highly significant
External relations	3.83	Highly significant
Lack of funds	3.8	Highly significant
Financial accountability and transparency	3.78	Highly significant
Human resource	3.64	Highly significant
Donor preference towards area of interest	3.62	Highly significant
Global donors country priorities	3.55	Highly significant
Competition from other NOT-FOR-PROFITS	3.43	Significant
Leadership	3.42	Significant
Limited strategic and operational plans	3.41	Significant
Centralization in urban areas	3.40	Significant

*Table 4: Priority of challenges faced*



The above table shows the relative significance of the challenges identified by the authors in the minds of the respondents. The technology stands out to be the most significant one with a mean value of 4.26 (on a scale of 1 to 5, being highly significant), followed by donor prejudices, external relations and funding challenges. All the challenges under study are found to be significant to some level with that related to centralization of NGOs in urban areas as the least significant one amongst them.

This leads to the conclusion that the challenge related to technology is the most significant challenge faced by the founders of Indian not-for-profits, followed by donor prejudices, external relations, lack of funds, financial accountability and transparency, human resource, donor preferences, global donor country priorities, competition from other no-for-profits, leadership, limited strategic plans and lastly centralization in urban areas. (Handy et al, 2007) also report that access to financial capital, or the lack thereof, was not a crucial factor in the decision making for NGO entrepreneurs in India.

2. *Objective:* To study the difference in perception of the 3 classes of age of a not-for-profit towards the different challenges faced by the NFPs.

Factor	p-value	Inference
Government policies	0.360	Ho is accepted @ 5% level of significance
Relationship with government	0.258	Ho is accepted @ 5% level of significance
External relations	0.194	Ho is accepted @ 5% level of significance
Global donor country priorities	0.546	Ho is accepted @ 5% level of significance
Donor preferences towards area of interest	0.625	Ho is accepted @ 5% level of significance
Donor prejudices	0.655	Ho is accepted @ 5% level of significance
Competition from other NOT-FOR-PROFITS	0.027	Ho is rejected, difference in perception
Lack of volunteerism/public participation	0.392	Ho is accepted @ 5% level of significance
Centralization in urban areas	0.933	Ho is accepted @ 5% level of significance
Leadership	0.745	Ho is accepted @ 5% level of significance
Human resource	0.211	Ho is accepted @ 5% level of significance
Lack of funds	0.202	Ho is accepted @ 5% level of significance
Financial accountability and transparency	0.832	Ho is accepted @ 5% level of significance

Limited strategic and operational plans	0.460	Ho is accepted @ 5% level of significance
Technology	0.346	Ho is accepted @ 5% level of significance

Table 5: Perception of challenges based on the age

From the above table, it can be seen that p value is greater than alpha for all except one challenge and hence can be inferred that there is no significant difference in the perception of the founders of different age towards the factors of challenges faced, except for one factor which is competition from other not-for-profits. Whether it is old or new, irrespective of the fact the founders of all not-for-profit face similar level of challenges related to the fourteen factors. Table 5 below shows the results for the factor, "Competition from other not-for-profits."

Factor	Age	Mean value	Inference
Competition from other not-for-profits	Old	2.98	Not significant
	Medium	3.50	Significant
	New	3.78	Highly significant

Table 6: Comparison on the basis of organization age

The above table shows that among the three classes of NGOs classified as per their age, newer not-for-profits find the challenge related to competition from other NGOs as most significant, with a mean value of 3.78 on a scale of 1 to 5, 5 being highly significant. The number for medium aged NGOs stands at 3.50 which again depicts significance whereas that for older NGOs is 2.98 which is less than 3, i.e. neutral. It can be said that older NGOs do not find this challenge as very significant.

3. *Objective:* To study the difference in perception of the 3 classes of annual turnover of not for profit towards the different challenges faced by the NFPs.

Factor	p-value	Inference
Government policies	0.242	Ho is accepted @ 5% level of significance
Relationship with government	0.168	Ho is accepted @ 5% level of significance
External relations	0.355	Ho is accepted @ 5% level of significance
Global donor country priorities	0.302	Ho is accepted @ 5% level of significance
Donor preferences towards area of interest	0.675	Ho is accepted @ 5% level of significance
Donor prejudices	0.090	Ho is accepted @ 5% level of significance

Competition from other NOT-FOR-PROFITS	0.187	Ho is accepted @ 5% level of significance
Lack of volunteerism/public participation	0.133	Ho is accepted @ 5% level of significance
Centralization in urban areas	0.621	Ho is accepted @ 5% level of significance
Leadership	0.785	Ho is accepted @ 5% level of significance
Human resource	0.716	Ho is accepted @ 5% level of significance
Lack of funds	0.126	Ho is accepted @ 5% level of significance
Financial accountability and transparency	0.645	Ho is accepted @ 5% level of significance
Limited strategic and operational plans	0.637	Ho is accepted @ 5% level of significance
Technology	0.462	Ho is accepted @ 5% level of significance

Table 7: Perception of challenges based on annual turnover

From the above table, looking at the p-values (all are greater than alpha, i.e 0.5) it can be said that there is no significant difference in the perception of the founders of different annual turnover towards the factors of challenges faced. Irrespective of the size of turnover, the founders face similar level of challenges related to all the fifteen factors.

4. *Objective:* To study the difference in perception of the 3 classes of size (in terms of human resource) towards the different challenges faced by the NFPs.

Factor	p-value	Inference
Government policies	0.442	Ho is accepted @ 5% level of significance
Relationship with government	0.022	Ho rejected, difference in perception
External relations	0.790	Ho is accepted @ 5% level of significance
Global donor country priorities	0.912	Ho is accepted @ 5% level of significance
Donor preferences towards area of interest	0.959	Ho is accepted @ 5% level of significance
Donor prejudices	0.105	Ho is accepted @ 5% level of significance
Competition from other not-for-profits	0.496	Ho is accepted @ 5% level of significance
Lack of volunteerism/public participation	0.548	Ho is accepted @ 5% level of significance
Centralization in urban areas	0.420	Ho is accepted @ 5% level of significance

Leadership	0.637	Ho is accepted @ 5% level of significance
Human resource	0.884	Ho is accepted @ 5% level of significance
Lack of funds	0.646	Ho is accepted @ 5% level of significance
Financial accountability and transparency	0.718	Ho is accepted @ 5% level of significance
Limited strategic and operational plans	0.961	Ho is accepted @ 5% level of significance
Technology	0.024	Ho rejected, difference in perception

*Table 8: Perception of challenges based on size*

From the above table, one can understand that there is no significant difference in the perception of the founders of not-for-profits of different size (in terms of human resource employed with them) towards the factors of challenges faced, except the two factors which are relationship with government and technology. Whether the size is small or large, irrespective of the fact the founders face similar level of challenges related to the 13 factors. Table 9 below shows the results for the factors, "Relationship with government & technology".

Factor	Size	Mean value	Inference
Relationship with government	Small	2.52	Not significant
	Medium	3.18	Significant
	Large	3.53	Highly significant
Technology	Small	4.85	Highly significant
	Medium	3.54	Significant
	Large	4.20	Highly significant

*Table 9: Comparison on the basis of size*

From the above table, it can be said that smaller NGOs feel technology as highly significant challenge with a mean a value of 4.85 which is very close to 5 whereas maintaining relationship with government is seen as a highly significant challenge for large not-for-profits with a mean value of 3.53. Technology is also seen as a significant challenge for large NGOs whereas the medium ones do not find it that significant, though it is a significant challenge for them too.

## RESULTS AND DISCUSSION

The study shows that challenges exist in the not-for-profits of differing sizes, ages and turnovers. Amongst the significant challenges, those related to technology are the most significant, followed by donor prejudices, external relations, lack of funds and financial accountability & transparency. Although primarily concerned with “management control”, Anthony and Young (1988) also discussed eight different contextual attributes of nonprofit organizations that affect the control process: absence of profit measure; tax and legal considerations; predisposition to be service-oriented; greater constraints on goals and strategies; source of financial support; dominance of professionals; differences in governance and in senior management; and political influences. Obtaining funding for technology, introduction and training could be the reasons for this being significant.

Newer organizations face higher competition from the established ones, followed by the middle aged ones, whereas the older organizations, do not face significant competition from other NFPs. Irrespective of turnover, all founders face similar level of challenges related to all the fifteen factors. Larger not-for-profits face higher difficulties in maintaining relationship with the government, whereas smaller organizations do not find it as a significant challenge. Newer organizations face higher competition from the older organizations followed by the middle aged ones. The almost equal representation of the sizes of the not-for-profit brings a balanced approach to this study.

## CONCLUSIONS AND IMPLICATIONS

Overcoming challenges of technology, donor prejudices, and external relations, lack of funds and financial accountability & transparency are *essential* if the not-for-profits want to grow, succeed and sustain. Increased competition in this sector is hampering growth and performance of these organizations. Training of employees and collaboration between these organizations could help overcome some of these challenges. This study provides a basis for future research to bridge the knowledge gap in the areas of technology, donor prejudices, external relations and funding and thereby understand ways & means to overcome them and help build, nurture, and sustain them. (Hackler & Saxton, 2007) conclude that *nonprofits must enhance organizational capacities in long-term IT planning, budgeting, staffing, and training; internet and web site capabilities; and the vision, support, and involvement of senior management to achieve the IT mission impact*. The contribution from this study will help practitioners make sense of the challenges faced in this sector and elucidate efforts to surmount them. As quoted in the literature review, the not-for-profit is a third sector of the economy and it has shown rapid growth over the past years. So, understanding the challenges facing them and devising strategic

policies accordingly is an important aspect contributing towards smooth functioning of these organizations.

The limitations of this study were, it was quantitative in nature, and perhaps a qualitative data collection method would give better results. Additionally increasing the sample size could have yielded better results. Further research may be justified to investigate the perception of the organization employees. Collaborations amongst old & new organizations could probably be studied in the future. The findings and results will be used by researchers and founders who start not-for-profits as the annual budgets of these organizations are now not a paltry sum but range from Rupees thirty million to five thousand million (Latha & Prabhakar 2010).

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## DIGITALIZATION FOSTERING BUSINESS COOPERATION – REALITY OR FICTION?

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### ABSTRACT

The goal of the paper is to investigate if and how new technologies and digitalization foster the cooperation in business. To achieve that goal the authors first highlight the significance of the Internet for the growing presence of the cooperative process in the economy, then the concept of the sharing economy is explained and the main manifestations of the sharing economy – new business models, new models of economic organization, are characterized. The paper is more conceptual than empirical in nature. Nevertheless the authors combined the conceptual approach with the case study approach. The second was used to exemplify the new processes in business. It turns out that the new trends are accelerated by digitalization and new technologies and manifest themselves in the prevalence of cooperative elements in business. The business processes presented suggest interesting managerial implications for companies: innovative business models should be based on sharing, openness, transparency and crowdsourcing. Breakthrough technologies enrich and diversify opportunities for value creation by new forms of collaboration.

**Keywords:** *strategic management, business model, cooperation, sharing economy, digitalization, Internet, crowdsourcing, transparency*

### INTRODUCTION

Strategic management has been based for a long time on the assumption of competitive advantage (Porter, 1985). It was assumed that to create and sustain advantage in the market a firm has to compete with other firms. It highlighted the significance of competition and neglected the value of cooperation. The Strategic Management Society (SMS) was established in 1981 and operates in the form of interest groups. SMS appreciated the processes of cooperation only in 2012, when the “cooperative strategy” interest group was created. The „competitive strategy” interest group existed from the beginning of the SMS.

The dynamic economic growth which we have experienced on a global scale for several decades and despite the crises that take place in different parts of the world is to a large extent facilitated by the business cooperation (Nowak and Highfield, 2011; Sennett, 2012). Cooperative behaviours are visible at Innovation, Entrepreneurship and Digital Ecosystems

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the macro- and in particular the micro-level. Firms became aware that cooperation is crucial for their business success (Axelrod, 1997; Schmid, 2004).

The structure of the paper is as follows: first, the authors highlight the significance of the Internet for the growing presence of cooperative process in the economy, then the concept of the sharing economy is explained and the main manifestations of the sharing economy are characterized. New business models and the phenomenon of crowdsourcing are described. The paper finishes with conclusions.

## **THEORETICAL FRAMEWORK**

Cooperation in business can be viewed from the perspective of the theory of economics and from the theory of management. Both approaches put emphasis on different aspect of this phenomenon. Nevertheless they do not exclude each other but rather complement one another. For Ronald Coase (1937) cooperation was crucial to decrease the transaction costs related to contractual relations. Cooperation was a kind of governance mechanism that thanks to trust allowed the replacement of pure market price formation with a visible hand of management. The theses of Coase later gave rise to the theory of Olivier Williamson that is called the transaction costs theory. Williamson (1987) presented a firm as a kind of governance structure which exists to minimize transaction costs. He indicated three types of governance mechanisms: the hierarchy, the pure market and between them – cooperation. Cooperation was called a hybrid form of governance structure and manifested itself in the form of strategic alliances amongst organizations. According to Park and Russo (1996, p. 877) cooperation combines market and hierarchy to reduce the negative aspects of both. In their approach cooperation helps to mitigate the asymmetry of information and to reduce the risk of partners' opportunistic behaviour.

During the two last decades strategic management theory was under the strong influence of the resource based view – RBV (Wernerfelt, 1984; 1995; Barney, 1991). RBV associates cooperation with attempts to get access to valuable resources and skills. In this perspective each firm is characterized by a different pool of resources and skills. Cooperation emerges when firms are eager to share knowledge, especially tacit ones and expertise related to the development of products and processes.

Another quite important issue is how to increase the pool of the positive implications of cooperation in business and the question as to which factors are crucial for the creation of advantages of cooperation for incumbents involved in this kind of behaviour and relationships in the market. In a set of factors facilitating cooperative attitudes and behaviours in business we can indicate digitalization. This relatively new trend increases the number of potential beneficiaries of cooperation in business.

According to some experts digitalization fosters business cooperation to an extent so far not encountered in the history of mankind. In the last few years there have been views suggesting even the

transition to an era of abundance of goods and services, which will be almost for free (Diamandis and Kotler, 2014; 2015). Following this the capitalist system of the market economy will evolve in the direction of cooperative communities in which the dominant form of business relations will be the sharing of goods and services (Rifkin, 2014).

The prevalence of Internet use in business resulted in the emergence of the new notion and concept: wikinomics (Tapscott and Williams, 2006; 2010). Wikinomics is defined as a new art of cooperation amongst organizations and individuals who use Internet. This is a new way of creating innovation and value based on cooperation of “peers”. Tapscott and Williams (2006; 2010) indicate four principles of wikinomics in enterprises: openness, partnership, sharing and global action. In short it can be described as follows:

Openness – the past confidentiality gives way to increasing transparency. The new rules apply to the openness of human resources, innovation, industry standards and communication. Information that used to be kept in secret is now becoming more widely available.

Partnership (peering, peer-to-peer, P2P) - is a form of organization combining elements of hierarchy and self-organization. It is based on the principles of meritocracy which means that the most talented and experienced community members are leaders and perform the functions of integration. Working in partnerships is more effective than hierarchical management because it is based on voluntary motivation. People alone accept tasks that require creativity and knowledge. They are therefore more likely to do the work better than if they had to follow the command manager. This applies particularly to areas requiring creativity, such as scientific research, software, education, entertainment, or culture.

Sharing - traditional business wisdom says that you should protect intellectual property. Digital recording introduces new challenges. It is easy to share, process, or copy. Companies need to protect just their fundamental intellectual property. Sharing their own intellectual property is not an altruism. This is often the best way to build ecosystems of cooperation.

Global action (acting globally) – a truly global company has no physical or regional boundaries. It builds its ecosystem for the design, supply, production and distribution of products on a global scale.

The four concepts of wikinomics that govern business reality nowadays manifest themselves in the development of new business models and new business processes like prosumption (Toffler, 1980), crowdsourcing (Howe, 2006), user contribution systems (Cook, 2008), or Internet collaboration platforms, e.g. InnoCentive, or NineSigma.

## METHODOLOGICAL APPROACH

Our paper is based on secondary sources and we follow the inductive rather than deductive approach. The key assumption within this methodological approach rests on the significance of observations

amongst others as a foundation for further generalization if any (Neuman, 2003, p.51). According to Bernard (2011) at the beginning in this kind of study is the observation which is to provide the researcher with any patterns. Then the researcher looks for explanations and further theories for those patterns. The challenge of detection of the signals of the impact of digitalisation on cooperation in business being a relatively new phenomenon and still calling for research justified the avoidance of any preconceptualization. The type of analysis implemented in the study can be called narrative description. However we embed our study not only in conceptual issues but in an attempt to provide exemplification of particular phenomena referring to real-life cases of firms. The cases we indicated are rather more exploratory than explanatory in nature since they are a kind of pilot study to provide some foundations for a more complex research framework in the future.

## SHARING ECONOMY

The sharing economy (also known as peer-to-peer economy, or collaborative economy, or collaborative consumption) is a new economic and social phenomenon based on the sharing of human and physical resources. It includes the shared creation, production, distribution, trade and consumption of goods and services by different people and organizations. Although it is a relatively new phenomenon it has been widespread across the globe in the form of peer-to-peer ride-sharing, accommodation-sharing, or renting household items, etc.. (The Economist 2013a).

The proliferation of Internet and mobile devices has accelerated a digital evolution and it serves as a growth catalyst. Technology is crucial to the growing concept of a sharing economy to enable scale and enhance economic impact. A number of Internet sharing platforms have emerged which enable individuals to share goods and services such as houses, cars, garden tools, professional skills and so on (Botsman and Rogers 2010).

The main advantage of the sharing economy is the fact that the sharing platforms create a win-win situation for all the stakeholders. The amenities of the sharing economy are diversified: on-demand access to goods and services, efficient utilization of unused assets, leading to a multiplier effect such as increased employment and the rise of micro-entrepreneurship. Enterprising citizens can now generate income by renting assets as varied as furniture, camping equipment, or even parking spots.

The sharing economy is a hybrid form of economic and social organizations between private ownership and peer-to-peer-based sharing of access to goods and services. New firms are experimenting with new organisational forms. The main difference lies in ownership. At the beginning of a company's life the founders and first employees own a majority stake—and they motivate people with ownership stakes or performance-related rewards. That has always been a

practice in start-ups but today the rights and responsibilities are precisely defined in contracts. This aligns interests and creates a culture of hard work and friendship.

Start-ups used to face difficult choices about how to invest in large assets such as property and computer systems. Currently young companies exploit new technology which enables them to be global without having big assets. They can develop very fast by buying in services as and when they need them: „*They can incorporate online for a few hundred dollars, raise money from crowdsourcing sites such as Kickstarter, hire programmers from Upwork, rent computer-processing power from Amazon, find manufacturers on Alibaba, arrange payments systems at Square, etc.*” (The Economist, 2015).

Sharing, openness and transparency have become new business rules. For example Tesla Motors, Silicon Valley’s electric carmaker, in the spirit of the “open source” movement, shares patents that cover its electric vehicles technology for free. Tesla believes that applying the open source philosophy to its patents will strengthen rather than diminish its position. E.Musk, Tesla founder and CEO, is convinced that other companies making electric cars will benefit from a common, rapidly-evolving technology platform. Technology leadership is not defined by patents but rather by the ability to attract and motivate the world’s most talented engineers.

Tesla’s strategy is imitated by the more „traditional” carmaker Toyota. Toyota is focused on making longer-range hydrogen-fuel-cell vehicles, the future standard for clean transportation, and is working with the Japanese government to build a fuelling infrastructure for hydrogen. Toyota shares its 5,680 patents related to its new Mirai car for free to promote hydrogen-powered vehicle technology. This is the first time the Japanese carmaker has released patents to competitors without charging a royalty fee.

Sharing and openness are present in many very different industries such as: gold mines (Tapscott and Williams, 2006), software (Meyer and Kirby, 2012), or robotics (The Economist, 2014a). The Open Source Robotics Foundation (OSRF) has been created and it supports development of Robot Open Source (ROS). ROS is free to use and easily customised and is being taken up by more and more researchers, many of whom happily share their ideas (Pratt, 2015). Using a ROS navigation and a Kinect it is now relatively easy to build a simple robot.

## NEW BUSINESS MODELS

The business model is a key element of each business strategy. It is a set of assumptions about how an organization will perform to create value for all stakeholders (Magretta, 2002, p.44). Each business model should describe the rationale of how an organization creates value. According to Magretta (2002, p.46) the business model is a story of how an enterprise works and makes money. Many great

business models began not with the analytic efforts of a planning committee but were developed through serendipity and experimentation.

Literature on the newest business models is quite dispersed. Academics are trying to follow and present a new explosion of business models. A common conceptual base is still lacking (Zott, Amit and Massa, 2010). In this paper we have tried to capture and describe new business phenomena which are based on Internet technology.

There are two companies, both created in San Francisco, which are regarded as the pioneers of the sharing economy: Airbnb created in October 2008 and Uber founded in March 2009. Uber a taxi operator is now the most valuable American company of the newest generation. Uber is a private company and its capitalization is estimated to be above \$60 billion at the beginning of 2016. That is higher than 80% of the firms in the S&P 500 index, many of which are decades old. Uber's value has grown faster than those of Facebook and Twitter in their early years.

In 2016 Uber operates in more than 450 cities in about 70 countries providing more than 1 million rides each day. Consumers like Uber because its cars are cheaper than conventional taxis, clean and reliable. Uber's freelance drivers, who typically pay it around 20% of their fares, enjoy flexible working hours and are spared the formalities of qualifying as a conventional taxi driver. Uber has an advantage that most transport firms lack: it does not have the cost of maintaining and insurance its own fleet of vehicles because its drivers supply their own (The Economist, 2015b).

Uber can be used as a case study presenting how to construct a platform for a digital service on top of which other businesses can be built. As it arrives in a city it launches a vigorous recruiting programme for drivers by offering them incentives to sign up. Its fares are flexible - they undercut conventional taxis most of the time but go up when it is snowing or when there is some other reason why demand for rides is growing (The Economist, 2015a).

Airbnb an Internet holiday accommodation company currently has about 1,400 employees and operates 1,5 million listings in 33,000 cities and 190 countries. Airbnb owns no physical assets and is worth more than \$20 billion. That is more than the value of Hyatt Hotels, which has 45,000 employees spread across 549 properties and whilst Hyatt's business is comparatively flat Airbnb's activity indicators are growing exponentially (Gallagher, 2015).

The story of Airbnb versus Hyatt Hotels presents a fundamental difference in the approaches to ownership. Hyatt Hotels spent enormous resources to purchase and own billions of dollars in physical assets whilst Airbnb connects users with property to rent (hosts) with users looking to rent the space (guests). Airbnb runs its business without owning any rooms itself. Such platforms disrupt traditional industries by creating new sources of supply and rely on customer reporting to develop

quality. Unlike traditional hotels Airbnb develops not by scaling assets but by increasing the hosts and travellers and matching them with each other using Internet tools (The Economist 2013b).

The main competitor of Airbnb is Couchsurfing, also from San Francisco, but it works on the basis of a slightly different business model. The company started as a nonprofit organization. Currently it also does not charge for any service, but users can pay a one-time fee of \$ 25, which is also a membership fee. Members of this organization provide each other with services of rental housing. Couchsurfing is distinguished from its commercial competitor Airbnb, through its mission statement which is more social than commercial, which expresses the slogan: "Stay with locals for free". Another company in this industry is HomeAway, an American public company established in Texas.

The above-mentioned companies (Uber, Airbnb and their competitors) are private companies operating as intermediaries in the provision of services. Their income partially comes from the fees that the recipient pays to the service provider. They are for-profit companies. It binds them with the traditional economy. Using the Internet capabilities they built a business model based on outsourcing not investing in material assets. They created the ecosystems of cooperation with external partners based on a voluntary basis and mutual trust. Trust is possible thanks to the transparency obtained through the profiles of the participants and the mutual evaluation. This transparency is provided by the use of the Internet and telecommunication technologies.

## **CROWDSOURCING**

The rise of crowdsourcing is connected with Linux which is the pioneer and most prominent example of open-source software and self-organizing power in the Internet (Surowiecki, 2005, pp.72-74). Today Linux is used by tens of millions of people around the world. It consists of more than 100.000 volunteer programmers building and improving the software. They are united by a common goal: to create the world's best operating system. Linux open projects appeal to volunteers' need for individuality and autonomy and at the same time provide a sense of community.

The Linux concept was developed in the 2000s and was adopted by business. In a short period of time crowdsourcing became an important form of business cooperation. The term "crowdsourcing" was coined by Jeff Howe (2006) and it is a fusion of two words: "crowd" and "outsourcing". Crowdsourcing is a widespread problem-solving method that involves outsourcing tasks to a network of people, also known as the crowd. The difference between crowdsourcing and ordinary outsourcing is that a task or problem is outsourced to an undefined public rather than a specific organization.

Thanks to Internet technology millions of people make different kinds of voluntary contributions to companies every day. Volunteers create significant value for those firms and, as a result, for their

shareholders. Many companies owe much of their success to the contributions made by anonymous people from outside their firms. There are many different examples: Facebook profiles, eBay goods, YouTube videos, Wikipedia entries, the aggregated buying behaviour underlying Amazon recommendations, etc. (Cook, 2008).

Traditional companies can use this emerging source of value by creating their business models based on so-called 'user contribution systems'. The user can be a customer, employee, supplier or someone with no previous connection to the company at all. The contribution can actively offer expertise, work, or information as well as passive or even unknowing contributions, such as behavioural data that are collected automatically as a by-product of a transaction or any activity. The system is the method, usually Internet based, by which contributions are aggregated and made useful to others. Such 'user contribution systems' create value for a business as a consequence of the value they deliver to customers.

Crowdsourcing may produce solutions from amateurs or volunteers working in their spare time or from experts or small businesses which were unknown to the initiating organization. Crowdsourcers are motivated by the two main benefits of crowdsourcing: they can gather large numbers of solutions or information and it is relative inexpensive. Users (crowd) are motivated by: intrinsic motivations (such as social contact and passing the time – emotions), or extrinsic motivations such as financial gain.

Enrique Estellés-Arolas and Fernando González-Ladrón-de-Guevara (2012), after studying more than 40 definitions of crowdsourcing, propose an integrating description: *„Crowdsourcing is a type of participative online activity in which an individual, an institution, a non-profit organization, or company proposes to a group of individuals of varying knowledge, heterogeneity, and number, via a flexible open call, the voluntary undertaking of a task“*.

Crowdsourcing systems are used to accomplish a variety of tasks. Traditional companies employ user contribution systems in a wide variety of business activities and functions: customer service, marketing, employee support, capital resources, design, production, etc.. The crowd may also be invited to develop a new technology. The last mentioned activity is supported by independent internet platforms, e.g. InnoCentive or NineSigma.

InnoCentive is a Massachusetts-based crowdsourcing company that accepts, by commission, research and development problems in engineering, computer science, maths, chemistry, life sciences, physical sciences and business. The company posts tasks (challenges) to its global solver community.

InnoCentive's solver community consists of over 355,000 people from nearly 200 countries. More than 50% of registered solvers come from Russia, India and China. Most of the problem solvers are well-educated, with a majority (66%) holding a PhD. InnoCentive posts its clients' problems on its website, without a crowdsourcer identity together with a financial reward for the best solution delivered within a given timeframe. The cash prize can range from \$10,000 to \$100,000 per challenge. Seeker companies, such as Procter & Gamble, Eli Lilly, Dow or BASF, have their own large R&D departments. They use InnoCentive when they are looking for new approaches in technology, especially when they are stumped in a particular research area. Using this approach seeker companies get access to the specialized talents of tens of thousands of scientists without adding to their fixed costs (Huston and Sakkab 2006).

NineSigma is a Cleveland-based open innovation service provider that connects organizations with external innovation resources to accelerate innovation in private, public and social sectors. It is a leading crowdsourcing supporter which has run contests for NASA, GE, BASF and many other companies. NineSigma has more than 2,5 million network members.

There are many examples of profitable crowdsourcing results. One of the most spectacular is the Goldcorp case (Tapscott and Williams, 2006). The crowdsourcer Goldcorp is a gold producer headquartered in Vancouver, Canada. Goldcorp's operating assets include goldmines in Canada and the U.S., in Mexico and in Central and South America. Its present strong position was created by Robert McEwen. McEwen was fascinated by the Linux model of cooperation with volunteers. His intention was to attract the best experts in the world to find more gold in Red Lake field in Canada, just as Linux managed to attract world-class programmers to create software.

In March 2000 McEwen announced the Goldcorp Challenge. It was an extraordinary challenge to the world's geologists. Goldcorp presented online data on the Red Lake mine. The prize was a total of \$575,000, with a top award of \$105,000. More than 1,400 scientists, engineers and geologists from 50 countries downloaded the company's data and started their virtual exploration. The top winner was a partnership of two firms from Australia: Fractal Graphics in West Perth, and Taylor Wall & Associates in Queensland. Together they had developed a powerful 3-D graphical depiction of the mine. From a remote site the winners were able to analyze a database and generate targets without ever visiting the Goldcorp property in Canada.

Crowdsourcing is also used by the PKN Orlen, the major Polish oil refiner and petrol retailer and the biggest Polish company. In 2015 PKN Orlen announced "The Waste Heat Recovery Innovation Contest" regarding technological solutions for efficient recovery and utilisation of low-temperature Innovation, Entrepreneurship and Digital Ecosystems



heat from distillation columns - to improve the energy efficiency in production processes at the refinery. It was the first global project of that scale launched by a Polish company. Proposals were submitted by companies, universities and research centres from all over the world. The best three solutions were selected. The winners each received prizes of EUR 10,000 and were invited to discuss further cooperation.

User contributions are fuelling some of the world's fastest-growing and most competitively advantaged organizations – in some cases revolutionizing the economics of entire industries by radically shrinking their cost structures. For example eBay was opened as an online store with no inventory leaving it up to customers to fill its “shelves” with goods to sell.

Skype incurs almost no capital costs because its Internet based phone system is built on the unused processing capacity of its customers' personal computers. Google too is built on user contributions: Its search engine relies on the algorithmic aggregation of links created by others between websites and its advertisement placement system relies on data from people's click behaviour (Iyer and Davenport, 2008).

A user community can answer difficult questions that even the firm's staff cannot. Hyatt Hotels and Resorts has launched an online service called Yatt'it. It reduces the work of hotel personnel and gives travellers tailored information. Yatt'it is an online community for Hyatt concierges and Hyatt Gold Passport members. The community offers travellers advice and inside knowledge with a unique advantage - credibility. The system reduces the burden on concierges. It also improves customer satisfaction by providing better and easier to access suggestions.

In Japan Honda captures real-time traffic data from GPS systems that Honda owners buy from the company. Reports from each vehicle contribute to a data stream that Honda aggregates with other traffic data to provide information on traffic jams and other conditions to Honda drivers who subscribe to the company's InterNavi service. Users benefit from enhanced traffic updates; the company can offer a superior subscription service without having to pay for the capital infrastructure.

In creative arts the Threadless company that manufactures T-shirts relies on a community of volunteer designers and artists to submit designs and a community of customers to select those that will go into production. Both of the user groups, as well as the company, benefit. The designers get free exposure for their work and a chance of monetary compensation: they receive \$2,500 plus a percentage of sales if their design is chosen by Threadless customers. The customers get distinctive T-shirt designs that

they have collectively selected. Threadless gets inexpensive design services and an unusually engaged customer base minimizing: inventory, cost promotions and other margin-eroding practices.

Most contribution systems offer no financial compensation to contributors. In fact payment can destroy participation by undermining a sense of collaboration and trust. Rather they rely on personal motivation or involve contributions that require no motivation at all because the user contributes without realizing it. Some systems collect participants' resources or data of things people are doing for other purposes. As shoppers buy from Amazon - they automatically contribute to its recommendation engine which suggests products based on purchase decisions of other customers. Many systems provide the benefits of interaction with others: being part of a community with a common interest, generating business prospects – these are the drivers behind social networks such as Facebook and LinkedIn.

Crowdsourcing creates two big challenges for executives. Firstly, they must learn how to spot opportunities for creating value from volunteer contributions and secondly, in acting on these opportunities, executives must overcome natural organizational resistance to the idea of relinquishing significant control to people outside the company.

## CONCLUSIONS

The above findings have confirmed that new technologies impact economic and social development processes. Internet creates new opportunities and accelerates the growth of new business and economic organization models which include strong cooperative elements. Thanks to the Internet the spread of best practices is possible. The new approach to business activity is often based on the principles of open source and peer-to-peer cooperation.

The sharing economy is a new economic and social phenomenon based on the sharing of human and physical resources. It is a relatively new process but it has been spreaded widely across the globe in the form of carsharing, ride-sharing, accommodation-sharing, etc. It is possible thanks to the development of innovative technologies. After more than 20 years of the Internet new firms emerged with their online platforms efficiently matching supply and demand for goods and services. They do this without expanding their assets, merely using free or redundant assets on the supply side. What is more they create new opportunities for consumption because they increase transparency in social and economic interaction. It is reality, not fiction.

From a managerial standpoint this study offers specific guidelines to business executives. The business processes presented suggest that innovative business models should be based on sharing, openness,

transparency and crowdsourcing. Breakthrough business models diversify opportunities for value creation by new forms of cooperation.

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## THE EFFECTS OF FOREIGN DIRECT INVESTMENT ON THE ECONOMIC GROWTH IN RUSSIA

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### ABSTRACT

The paper considers the role of foreign direct investment in the host country economy in the example of the Russian Federation. Positive and negative macroeconomic effects of foreign capital in national economies were marked. In the paper there was made an analysis of the country economy development through internal and investment resources. The analysis showed that the country economy was not too dependent on the foreign direct investment inflows. The econometric analysis confirmed the hypothesis of a positive, but weak impact of foreign direct investment on economic growth in Russia. The results of the calculations for the Russian economy showed that gross domestic product growth is more dependent on domestic investment in fixed assets than on foreign direct investments and labour.

**Keywords:** *foreign direct investment, FDI, economic growth, host economy, effects of foreign direct investment, gross domestic product, GDP.*

### INTRODUCTION

In the global economy multinational corporations (MNCs) are the leading subjects of production, trade, monetary and financial, scientific and technological processes. They affect the host country's economy through the movement of capital in the form of foreign direct investment (FDI), exports of goods and services, and also play an important role in the transfer of know-how, technology and innovation. According to the UN Conference on Trade and Development (UNCTAD), in 2014 multinationals accounted for about 2/3 of the world's foreign direct investment and more than a half of world exports of goods and services.

Russia faces the goal of improving the investment and innovative mechanisms to solve socio-economic problems and to increase economic growth. This problem can be solved by using the potential of domestic enterprises, as well as through the expansion of cooperation with foreign companies, by means of state regulation of FDI. In this context it becomes urgent to evaluate the macroeconomic

effects of FDI in the Russian economy, as well as measurement of FDI contribution to the gross domestic product (GDP) of Russian Federation.

The main purpose of the paper is to investigate a significance of the factors of production on economic growth in Russia in the years 1992–2014, with particular attention given to the influence of FDI net inflows. A decision to take FDI inflows into account as an explanatory (independent) variable of changes in the GDP value resulted from a number of preconditions including increased FDI inflows as well as outflows in Russia, especially in the period of the financial crisis, slowly growing significance of Russian foreign investments and the process of disinvestment.

The paper took advantage of the methods used in scientific literature and empirical studies. Investigation of the FDI impact on growth of the GDP value was carried out with the use of the Cobb-Douglas production function. Statistical data came from the OECD and UNCTAD databases.

It should be noted that the impact of FDI on the host countries is ambiguous. After analyzing the existing methodological approaches to the assessment of the FDI effects on the host country economy, we have distinguished econometric models which considered the economic effects of FDI impact on the host economies. These models have been tested on the examples of developed and developing countries, including China, Africa, Latin America, Central and Eastern Europe, Venezuela and Russia.

In the literature a lot of attention was paid to the study of the FDI impact the host countries. According to some economists, FDI is an important factor in the host countries and regions development (Kadochnikov *et al.*, 2011; Mantaeva and Bolaev, 2010; Boush *et al.*, 2012; Rakhmatullayeva *et al.*, 2015). FDI may be sent for reconstruction, diversification and modernization of production.

During the last decades, the relation between FDI and economic growth has been extensively discussed in the economic literature. There are different empirical studies assessing the impact of FDI on the growth factors of the host countries. They may be divided into two main directions: the first direction has searched the positive impact of FDI and economic growth, the other – a negative one.

Positive effects from the FDI on the host country growth factors are considered by some scientists (Mansfield and Romeo, 1980; Findlay, 1978; Borensztein *et al.*, 1998; Rappaport, 2000; De Gregorio, 2005; Sun, 1998). FDI through a “contagion” effect increased the rate of technical progress in host country from the more advanced technology, management practices, etc., used by foreign firm (Findlay, 1978). FDI, as an important vehicle for the transfer of technology, has contributed to the growth in larger measure than domestic investment (Borensztein *et al.*, 1998). They developed a research of 69 developing countries confirms that FDI contributes towards the economies of the less-developed countries, if they have the capabilities to absorb advanced technologies. FDI may improve the productivity not only of the firms receiving investments, but also of all firms of the host countries as a consequence of technological spillovers (Rappaport, 2000). Technologies and knowledge that are not

readily available to host country investors may be brought to them along with FDI, and in this way led to productivity growth throughout the economies (De Gregorio, 2005).

FDI may also boost exports for the host countries (Sun, 1998). Using the regression model and panel data, Sun has found out a high and significantly positive correlation between FDI and domestic investment in China. Higher levels of FDI are consistent with higher provincial exports in China (Zhang and Song, 2000). It is worth noting that the positive effect of FDI on exports in China has mostly been due to the fact that China has largely been used as an export platform by MNCs.

Goldberg and Klein analyzed the impact of FDI from the United States in the manufacturing sectors of individual Latin American countries on the net exports of those and other sectors (Goldberg and Klein, 1999). The results vary across sectors and host countries, reflecting the importance of the specific conditions in individual countries and industries. The fact that the results are mixed makes it impossible for the authors to draw a strong and clear conclusion on the relationship between the FDI flows and trade. Barry and Bradley analyzed the effects of FDI on Irish exports in a more descriptive way (Barry and Bradley, 1997). They concluded that there had been a significant direct contribution of foreign producers to increasing Irish exports because the FDI in Ireland had mostly been export-oriented.

The other group of researchers revealed the negative impact of FDI on the host country growth (Haddad and Harrison, 1993; Mansfield and Romeo, 1980; Lipsey, 2002; Mansfield and Romeo, 1980; Haddad and Harrison, 1993). They have also found no positive effect of FDI on the rate of economic growth in developing countries. According to the empirical research, a consistent relation between the size of inward FDI stocks or flows relative to GDP and growth did not exist (Lipsey, 2002).

Some researchers consider the positive or negative impact of FDI to correlate the conditions and the economy development level of the host country. A positive growth-effect of FDI may be real if the country was sufficiently rich (Blomstrom *et al.*, 1994). However, Carkovic and Levine take into account an interaction term from income per capita and FDI (Carkovic and Levine, 2002). FDI inflows did not exert an exogenous impact on growth in financially developed economies. FDI had a positive growth-effect in countries with sufficiently developed financial markets (Alfaro *et al.*, 2003).

Empirical studies have showed to conflicting results regarding the role and impact of FDI on host states (both positive and negative). In our opinion, the positive and negative effects of FDI on the host country economy can be classified as follows (Kapustina and Falchenko, 2015):

a) *the impact on economic growth*: FDI has a positive impact on economic development, contribute to the accumulation of fixed capital formation and GDP growth; on the other hand, the excess of the profits repatriation above FDI has a negative impact on economic growth of a host country and its regions;

b) *the impact on the efficiency of the production factors*: foreign MNCs shift production factors from less efficient sectors to more productive ones; on the other hand, low localization of foreign production does not stimulate the development of local production;

c) *the impact on employment and the labor market in a host country*: the employment is increasing by creating new jobs in a host country and the number of skilled workers is increasing; on the other hand, FDI reduced employment in a national economy due to the labor reallocation in the transnational sectors;

d) *the impact on the host country trade balance*: there are the import substitution effect due to the organization of production in a host country and the export-promotion effect by focusing of production for the foreign market; on the other hand, the volume of foreign trade of a host country are reduced due to the transformation of foreign trade flows in MNCs intra-operations;

e) *the impact on the level of technological development*: foreign MNCs through FDI carry out the transfer of new technologies in a host country, stimulate the technological development of a host region and contribute to the growth of labor productivity; on the other hand, MNCs may transfer obsolete technologies in a host country in accordance with the theory of product life cycle, as well as investment in obsolete industries that reduce the innovation potential of a host country.

In each host country, the positive effects of FDI may prevail over the negative ones or may not compensate the negative effects, that a reasonable assessment of the contribution of FDI to the economic development of a host country is required.

## METHODOLOGY

The reason for which the research into the FDI influence on economic growth in Russia was undertaken was to define the impact of these investments on economy over the transformation period of 23 years. The aim of these investigations was to determine whether the FDI impact on economic growth was positive or not.

### *Hypothesis*

H1: There is positive relation between FDI and GDP in Russia.

H0: There is no greater positive impact of FDI on GDP in Russia.

### *Model specification*

In this paper the Cobb-Douglas production function was used to analyze the effect of domestic expenditure and foreign investment on changes in the GDP value. The Cobb-Douglas production function is expressed by the following formula:



$$Y_t = A_t K_t^\alpha L_t^b \quad (1)$$

The aggregate production function links output  $Y_t$  (GDP) in period  $t$  to two factors of production, the capital stock  $K_t$  and the size of the labour force  $L_t$ , as well as to total factor productivity  $A_t$ . Any increase in either amounts labour or capital or increase in both of them will result increase in the level of output in the economy assuming that the level of technology remains constant. This production function was further enhanced in the new growth theory (Barro and Sala-i -Martin, 1995).

The theoretical framework of the study derives from the Cobb–Douglas production function, which is consistent with the specification used in several previous studies (for instance, Ramirez, 2000; Dutta and Ahmed, 2006; Gaikwad and Fathipour, 2013; Kosztowniak, A. 2014). The link between foreign direct investment and the growth rate of GDP is verified by using an aggregate production function framework. Following us, specify a gross domestic production function for a host country in the following way:

$$Y_t = f(L_t, K_t, FDI_t) \quad (2)$$

Wherein the above mentioned function  $Y$  represents the output level or GDP,  $K$  represents the amount of capital which is measured by Gross Fixed Capital Formation (GFCF), and  $L$  represents the amount of labour,  $FDI$  represents the impact of foreign capital which is measured by foreign direct investment inflows. Some empirical studies (for example, Carkovic and Levine, 2002) suggest that a positive constructive role performed by FDI is well recognized. FDI exerts positive impact on the economic growth of the host countries.

Specifying the production function in log-linear form, the following equation may be written:

$$\ln GDP_t = \alpha + \beta_1 \bullet \ln GFCF_t + \beta_2 \bullet \ln Labour_t + \beta_3 \bullet \ln FDI_t + \varepsilon, \quad (3)$$

Where:  $\ln GDP$  - the natural log of gross domestic product;  $\ln Labour$  - the natural log of total employment in the country;  $\ln GFCF$  - the natural log of gross fixed capital formation;  $\ln FDI$  - the natural log of the foreign direct investment inflows;  $\alpha$  – constant;  $\beta_{1,2,3}$  – coefficients;  $\varepsilon$  – balances;  $t$  – analyzed period.

Specifying the production function in log-linear form for the first differences, the following equation may be written:

$$\Delta \ln GDP_t = \alpha + \beta_1 \bullet \Delta \ln GFCF_t + \beta_2 \bullet \Delta \ln Labour_t + \beta_3 \bullet \Delta \ln FDI_t + \varepsilon. \quad (4)$$

### Data

The sources of the data were time series database of the UNCTAD and OECD databases (table 1).

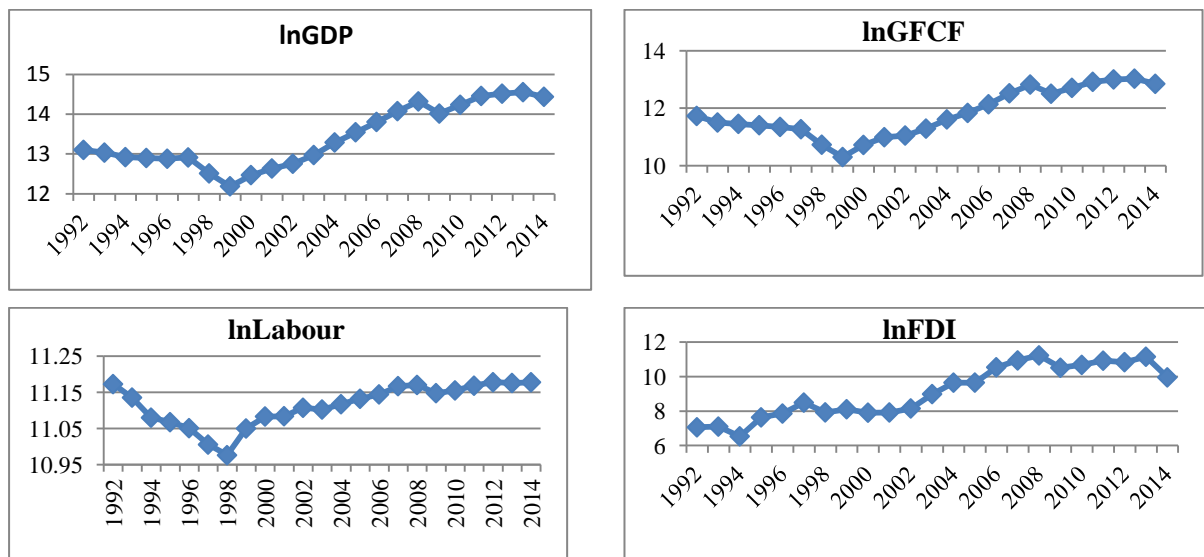
Parameters		Measure	Analyzed period	Source of information
GDP	Gross Domestic Product	million USD at current prices	1992-2014, annual data	UNCTAD Database
GFCF	Gross Fixed Capital Formation	million USD at current prices	1992-2014, annual data	UNCTAD Database
Labour	Labour Force	Persons, thousands	1992-2014, annual data	OECD Database
FDI	Foreign Direct Investment: Inward Flows	million USD at current prices	1992-2014, annual data	UNCTAD Database

Table 1. *The sources of the data*

### Results

To assess the impact of FDI on the host country economy we apply regression analysis adapting known econometric models for the Russian economy.

Prior to the estimation of the model the significance of structural parameters was examined as well as the goodness of fit of the model and selection of variables for the model (Figure 1).



Source: authors' own calculations on the basis of OECD and UNCTAD statistics, MS Excel program.

Figure 1. *Changes of GDP value, GFCF, Labour, FDI inflows in Russia in the period 1992-2014 (million USD, thousand persons, in logarithms data)*

Firstly, the descriptive statistics of all variables are computed. The descriptive statistics (table 2) shows the summary of the variables used in the regression equations. In descriptive statistics authors computed Minimum, Maximum, Mean, Kurtosis, Skewness and Standard Deviations values.

Variable	lnGDP	lnFDI	lnLabour	lnGFCF
Mean	13.4144203	9.115658444	11.11524019	11.81280876
Minimum	12.18540006	6.536074016	10.97616646	10.29894101
Maximum	14.55591063	11.22234462	11.1780819	13.02627403
Kurtosis	-1.441782559	-1.514628961	0.038887525	-1.200233774
Skewness	0.221301251	-0.027027154	-0.847280177	0.064670962
Std.Dev.	0.766234623	1.524090574	0.057680216	0.831436844

Source: authors' own calculations on the basis of OECD and UNCTAD statistics, MS Excel program.

Table 2. *Descriptive Statistics*

Kurtosis Analysis: Kurtosis is defined as a statistical measure which is used to describe the distribution of observed data around the mean. The kurtosis values for Foreign Direct Investment, Gross Domestic Product and Gross Fixed Capital Formation is observed to be negative. This indicates a low kurtosis implying that the distribution of the above mentioned variables is concentrated towards the mean and a chart with skinny tails. In comparison to the others, the only variable that has a positive kurtosis value is Labour. This indicates a high kurtosis portraying that the variable has a low and even distribution and a chart with fat tails.

Skewness Analysis: Skewness is defined as an asymmetry from the normal distribution in a given set of statistical data. It can be negative or positive depending on whether the data points are skewed to the left (negative) or skewed to the right (positive) of the mean of the distribution. It can be observed from the table that the Labour and the Foreign Direct Investment are negatively skewed implying that it can be estimated that the future data points of the two variables will be less than the mean. The variables Gross Domestic Product and Gross Fixed Capital Formation show a positive skewness indicating that estimation can be made of the future data points of these variables will be more than the mean.

In order to analyze the relationships between the dependent variable being GDP and independent variables, Pearson's correlation coefficient was calculated by the authors (table 3). The highest positive linear correlation occurred between GFCF and GDP, at the level  $R^2=0.992$ . The positive linear correlation also exists between FDI and GDP at the level of  $R^2=0.867$ .

Variable	Means	Std.Dev.	lnGDP	lnFDI	lnLabour	lnGFCF
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lnGDP	13.41442	0.766235	1	0.867498	0.808941	0.992231
lnFDI	9.11566	1.524091		1	0.629795	0.812798
lnLabour	11.11524	0.057680			1	0.819973
lnGFCF	11.81281	0.831437				1
Note: Marked correlations are significant at $p < 0,05$ . N=23.						

Source: authors' own calculations on the basis of OECD and UNCTAD statistics, MS Excel program.

Table 3. *Correlation coefficient of GDP, GFCF, Labour, FDI inflows in Russia in the period 1992–2014*

The purpose of the empirical investigation is to estimate the effects of (FDI) on economic growth (GDP) in Russia along with other explanatory variables, namely the working labour force in the domestic economy (Labour), the Gross Fixed Capital Formation (GDCF), and the foreign direct investment inflows (FDI). The study employed the Least Square Method in which several statistical tests were conducted with the help of MS Excel program. The authors used the regression equation to draw the results about all variables. The main results of the statistical tests are given in table 4.

Regression Summary for Dependent Variable: lnGDP				
Variables	Coefficients	Standard Error	T-static	P-value
Intercept	2.554	3.744	0.682	0.50
lnFDI	0.091	0.013	6,791	0.00
lnLabour	0.079	0.359	0,221	0.83
lnGFCF	0.775	0.033	23,317	0.00
Summary Statistics				
No. of observations	23	F	1402,2	
R	0.99774921	Adjusted R <sup>2</sup>	0.99479352	
R <sup>2</sup>	0.99550349	Std. Error of estimate:	0.05529	

Source: authors' own calculations on the basis of OECD and UNCTAD statistics, MS Excel program.

Table 4. *Regression Coefficients(Dependent Variable - lnGDP) and Summary Statistics*

Since the factor lnLabour was not significant (T-static < 2; P-value = 0.83), we have excluded it from the regression model. Thus, the results are as below (table 5):

Regression Summary for Dependent Variable: lnGDP				
Variables	Coefficients	Standard Error	T-static	P-value
Intercept	3.379486	0.197	17.129	0.00
lnFDI	0.090391	0.013	6.976	0.00
lnGFCF	0.779744	0.024	32.830	0.00
Summary Statistics				
No. of observations	23	F	2208.256	
R	0,995492	Adjusted R <sup>2</sup>	0.995041	
R <sup>2</sup>	0,995492	Std. Error of estimate:	0.053958	

Source: authors' own calculations on the basis of OECD and UNCTAD statistics, MS Excel program.

Table 5. *Regression Coefficients(Dependent Variable - lnGDP) and Summary Statistics (Model Correction)*

A unit root test has been performed to check the stationary of the variables. The results are as below (table 6):

Variables	Level	Variables	First difference
	T-static		T-static
lnFDI	-1.308966	$\Delta$ lnFDI	-4.377649**
lnGFCF	-0.192907	$\Delta$ lnGFCF	-3.034261**
lnGDP	0.028020	$\Delta$ lnGDP	-3.065528**
** And * indicate significance at the 5% and 1% levels, respectively.			

Source: author's calculations on the basis of MS Excel program.

Table 6. *Results of Augmented Dickey-Fuller test*

The results of the above table 6 reveal that GFCF, FDI, GDP and are stationary at first difference 5% level of significance, so appropriate technique for estimation is co-integration (table 7).

	Coefficient	Standard Error	T-static	P-value
Intercept	0.018	0.010	1.693	0.11
$\Delta$ lnFDI	0.044	0.021	2.096	0.05
$\Delta$ lnGFCF	0.733	0.043	16.942	0.00
Durbin-Watson statistic		1.849		

Source: author's calculations on the basis of MS Excel program.

Table 7. *Normalized Equation Results*

The table 7 shows that the value of t-static for all independent variable is greater than 2, these variables have significant relation with dependent variable (GDP). Gross fixed capital formation and foreign direct investment have positive relation with GDP in the long run.

The actual value of the Durbin-Watson test for this model is  $DW = 0,079620918 / 0,043064592 = 1.85$  (table 7). We formulated a hypothesis:  $H_0$  - no autocorrelation in the residuals;  $H_1$  - in balances

is a positive autocorrelation;  $H_1^*$  - in the residues have a negative autocorrelation. Define the level of significance  $\alpha = 0,05$ . In the tables of Durbin-Watson test values we determine critical  $dwL = 1.17$  and  $dwU = 1.54$  for the number of observations  $n = 23$  and the number of independent variables in the model  $k' = 2$ . We obtained the following intervals:  $dwL = 1.17$ ;  $dwU = 1.54$ ;  $DW = 1,85$ ;  $4-dwU = 2,46$ ;  $4-dwL = 2,83$ . The actual value of  $DW = 1,85$  falls in the interval from  $dwU$  to  $4-dwU$ . Consequently, there is no reason to reject  $H_0$  hypothesis about the absence of autocorrelation in the residuals. The magnitude of the Durbin-Watson statistic can help to make a conclusion about the absence of autocorrelation in the residuals.

The regression analysis revealed the fact that FDI has the positive linkage with GDP as hypothesized by  $H_1$ . FDI and Gross Fixed Capital Formation relation with GDP are positive that explain their positive impact on the GDP. During the econometric calculations the conclusion was derived that the gross fixed capital formation has the greatest impact on Russia's GDP growth rates. Russia's GDP has been increased by 0.733%. FDI inflows also have a positive effect on GDP growth rate. Due to a growth of

FDI inflows in the Russian economy by 1%, Russia's GDP grows by 0.044%. In brief, the hypothesis H1 of this study is proved and has the predetermined relation and impact on each other.

## CONCLUSION

In empirical research and scientific literature there are many different explanations of the role and impact of FDI on host states. Empirical studies in the 1980-1990s showed mainly a positive FDI impact on economic growth. But that research concerned developed countries. Instead, empirical researches in the 2000s involving both developed and developing countries showed different effects: positive, negative, bi-directional as well as no effects.

The research conducted in Russia reveals that in the period 1992–2014 a linear correlation existed between the FDI inflows and growth rates (Pearson's coefficient  $R^2=0.867$ ). The research results obtained that FDI has positive relation with GDP in Russia. In the examined period 1992–2014 FDI net inflows had a weak positive impact on changes in the GDP value.

In our opinion if we want to increase the Russian's GDP and make economic progress then there is a need to attract foreign investors because foreign investment increase gross domestic product and economic growth. FDI stimulate human resource development through investment in education and training. This enhances the stock of human capital and increases productivity of labour and other factors of production.

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## CAN PRODUCTION TECHNOLOGIES HELP COMPANIES SURVIVE A RECESSION? A WOOD PROCESSING COMPANY SAYS YES!

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### ABSTRACT

Production technologies and more generally, the management of new technologies are lately receiving increasing attention in strategic management research. This paper discusses the diverse and complex role of production technologies in low-technology industries and more precisely regarding the different types of performances in times of prosperity and crisis. It examines the importance of selection and/or development of production technologies and their impact on competitive advantage, exports, innovation and financial performance.

The paper then outlines a longitudinal study of a Greek wood-processing firm from its strategic decision to turn to global markets in 2005; times of prosperity and rapid growth rates for Greece; up to 2015, after seven years of severe socio-economic crisis. Manufacturing industries, and more precisely of the wood and furniture sector, have been severely hit by the recent crises and have faced a significant drop in the number of companies, jobs, and turnovers. Using this extended case method, the study argues that production technologies may support the sustenance of competitive advantage and survival in manufacturing industries even in times of severe economic crisis. The case company was selected because of its exceptional strategy regarding its choices of production technology, the competitive advantage and its extroverted strategies as well as its performance before and within the crisis.

The study advances production technologies theory by confronting it with an empirical case. The analysis provides rich insights into the role of production. It also seems to contradict the common belief that low-tech companies are just “passive technology adopters.

**Keywords:** *production technologies, Wood processing industry, innovation, low-technology, competitive advantage, performance, crisis, recession, Greece*

### INTRODUCTION

In her seminal work, Joan Woodward (1965) pointed out that production technologies shape the organizational structures in manufacturing organizations. Technology and technology relationships have been connected to innovation and strategy (e.g. Arnold and Thuriaux, 1997) while the discipline Innovation, Entrepreneurship and Digital Ecosystems

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of management of technology and its impact on competitiveness has expanded with great speed during the last ten years including the so-called low-technology industries. Seminal works put actually emphasis on traditional business such as Virginia Acha's (2000) focus on the importance of production technologies and operational performance in the case of the petroleum industries.

Production technologies and more generally, the management of new technologies are lately receiving increasing attention in strategic management research either as important factor of innovative efforts and firm performance or as core elements of technological capabilities. Leonard-Barton (1995) has also described the technological competencies that enabled Chaparral Steel to develop its near-net-shape casting process

However, understanding between business and technology seems to be still lacking (White and Bruton, 2010) especially in cases of low-technology industries". More precisely, it appears that theoretical and empirical work providing evidence on the exact role and significance of production technologies in the survival and the several types of performance of low-technology companies is still at a rather embryonic stage. The paper takes up the challenge to examine in depth the impact of decisions and their implementation regarding production technologies on a wood processing firm's course during a critical decade in its life; from its decision to become mainly an export company, in times of prosperity for Greece, and through the deep recession that Greece faces the last eight years. In doing so, it adds to the scarce existing theoretical efforts and, most interestingly, provides useful empirical evidence on how low-technology firms which are extremely vulnerable to crises may use production technologies to effectively develop competitive advantages and differentiate in a changing environment.

The paper begins with a theoretical discussion on production technologies and a brief introduction to wood industry, followed by the research design and the experimental setting. The longitudinal study of a Greek wood-processing firm is then presented and discussed in order to produce useful insight and concluding remarks.

## **THEORETICAL BACKGROUND**

According to the Encyclopedia Britannica, "Technology may be defined as the systematic study of techniques for making and doing things. [...] In the early 20th Century, technology included a growing range of means, processes, and ideas in addition to tools and machines" (p. 451). Britannica continues by claiming that in the second half of this century technology is defined by terms like "The means or activity by which man seeks to change or manipulate his environment" (Ibid. p. 451). The development of needed technologies entails "an act of discovery, a speculation on the future, but also the creation of a new path through the distributed efforts of many" (Berglud, 2010). Idea

implementation rests on combinations of activities which range from pure novelty to modest adaptation but in their essence “they reflect the pragmatic nature of most expressions of technological knowledge” (Pavitt, 1984).

Layton (1971) had viewed technology as a spectrum, with ideas at one end, techniques and things at the other with knowledge to be the intermediate link. This is referred as technological knowledge; i.e. “knowledge associated with products, technologies, and/or processes” (Burgers et al., 2008).

Technology and technology relationships have been connected to innovation and strategy; according to Grant et al., (1991) “optimal” technology for a business is contingent upon the firm’s strategic goals, its available resources, and the nature of its product–market environment. Especially in the case of low-technology manufacturing industries, process innovation has been mainly associated with flexible, advanced manufacturing technology (e.g. Raymond and St-Pierre, 2005) and information technology (e.g. Zhang, 2006).

According to a stream of relevant literature, technological resources have a significant influence on the internationalization of firms (Rodriguez & Rodriguez, 2005; Tsang et al., 2008). Production technologies constitute a type of technological resources of a critical role in this value-generating cycle being responsible for the successful application of the work of researchers and industrial practice in order to offer commercial products covering technologies for an extremely varied range. Empirically, this has been investigated by a significant number of scholars such as Tseng, Tansuhaj, Hallagan, and McCullough (2007), and Kafouros et al. (2008).

The production process refers to the operational way in which inputs are combined and transformed into output, only once this process has been organized. Production process’s organization and mechanisms have been called *production technology* by Woodward (1965) and Lin and Germain (2004) and have been treated as contextual variables of organizational design in general. Production technologies may cover the technological know-how, technologies and manufacturing capabilities, processes and methods, production management systems as well as design, materials and even R&D. Especially in the case of manufacturing industries, competitiveness depends heavily on the ability to access and use technologies. However, because of increasing technology convergence, the scientific fields that offer the necessary technological knowledge may often be relatively different even from the core industry technologies (Garcia-Vega, 2006), and this puts further emphasis on the importance of successful technology exploitation (Patel & Pavitt, 1997). Thus, technological know-how and technological capabilities are clear performance characteristics by means of which companies can distinguish themselves from the competition (e.g. Klocke, 2009).

Therefore, the choice of production technologies constitutes a significant strategic decision for manufacturing companies. Technology evolves in certain path dependent ways while technological

progress “builds on what went before” (Teece, 1996, p.195), indicating that it usually has significant organization-specific dimensions. Investments in production technologies and machinery and equipment have been argued to impact firms’ performance (e.g. Meliciani, 2000). Sohn et al. (2007) linked strategic investment decisions with financial performances, while DeLong and Summers (1992) and later Sala-i-Martin (1997) found strong links between equipment investment and economic growth. The same year, Sargent and James (1997) empirically exploring the impact of machinery and equipment on firm’s performance conclude that knowledge and experience of managers / entrepreneurs have a direct and significant impact on the investments on machinery and equipment.

According to a recent stream of literature, production technologies constitute the media through which high-tech industries develop co-operations with low-tech ones with mutual benefits such as the exchange of knowledge, common R&D and even the mutual progress of firms and sectors within a dynamic- interactive supplier-customer framework. The supporters of this view advance the former traditional perspective according to which, manufacturing industries, such as wood and furniture or textiles and clothing ones were thought of as “passive borrowers” of technology produced in other, more research-intensive sectors such as machinery, ICT and novel raw material producers (Hirsch-Kreinsen and Schwinge, 2011) known as “technology suppliers”. In such cases, advanced production technologies and the level of the technology provider - user relationship could enable “the firm to capture lucrative and more value added markets for growth” (Evers, 2011).

This relationship has changed significantly mainly since the new millennium. Focusing on the empirical case of the food industry, Trippel (2010) provides evidence that the link between old industries and their high-tech contexts may be more complex than commonly thought. Habets, Van Der Sijde, and Voordijk, (2007) provide insights into the adoption processes of novel production technologies in the Dutch road construction industry. Recent research and empirical findings regarding LT-KIE indicate that today, manufacturing companies of low-technology industries appear to have complex links to science and technology, unique forms of knowledge creation and a rather unexplored system of applying innovative production technologies and creating unique competitive advantages. Many times low-technology firms decide even to produce their own complex machinery in-house in order to protect proprietary process technologies that constitute a significant part of the firm’s competitive advantage.

Researchers on the impact of production technologies in performance have explored several forms of rents such as the financial performance (Fuentelsaz et al., 2012), the strategy of the firm (e.g. Chari et al., 2008; Henderson and Venkatraman, 1993) and the innovation performance (e.g. Damanpour et al., 2009). Hussain and Isa (2015) empirically investigate the relationships of export performance and

technological advancement within the Malaysian manufacturing sector. Araújo and Salerno (2015) conclude that technological strategies improve the productivity and size of all firms.

## WOOD SECTOR

Wood industry is one of the most representative traditional low-tech industries worldwide with a significant share of employment and value-added for the global manufacturing industry and economy.

The wood product manufacturing industries or woodworking industries include the production of sawn wood, wood-based panels, joinery and carpentry materials, containers packaging and other wooden articles. Woodworking companies are considered highly innovative and knowledge-intensive (Smith, 2008); they build high-quality innovation systems regarding mainly production technologies which result in both novel products and processes. Sectoral research and technological development knowledge centers, global machinery manufacturers, suppliers, the chemical industry, and Universities develop synergies with firms of the sub-sector. Innovations turn around engineered wood products, wooden composites, novel fittings and other wooden products or issues such as productivity increase and quality improvement.

Woodworking and furniture industries play a significant role in Greek economy, with a turnover in 2008 of around €2 billion, an added value of around €1 billion and an employment rate of 35.000 people in more than 15.000 companies (Eurostat, 2009).

The vast majority of Greek woodworking companies is micro-companies, with the wood-based panel sub-sector and sawmills to be the exception. Indicatively, in the good pre-crisis times, there were no more than five large firms in Greece which would cover more than 80% of the domestic production of wood-based panels. 66% of the firms are less than 30 years old and cover mainly the domestic market, as exports are rather insignificant. They are the main suppliers of the furniture and construction industries with sawmills (sawn wood) to compete wood-based panels.

In the context of the wider socioeconomic crisis in Greece, the decrease of the building activities and the crisis in the furniture sector caused significant problems and shrinkage. The lack of demand, liquidity and confidence leads to the shut-down of many well-known enterprises. A typical example is the case of Shelman; one of the biggest and strongest wood-based producers which supplied almost 100% of plywood in the domestic market. The company was sold and then bankrupted.

The industry faces growing competition from low-cost, emerging economies and a growing number of technical trade barriers. Lately, the competition is focused on the level of prices, with extremely limited mixed margins of profits

## METHODOLOGY

This study sought to investigate the diverse and complex topic of the role of production technologies in the different types of performances of a low-technology company in good- and crisis-times. The issue touches on a variety of factors, such as technology, processes, strategy, market development, innovation, as well as management and organizational issues, in different national and global environments. Given the nature of the problem being investigated, the qualitative approach and more precisely the single case study method was employed. This methodology was considered suitable as the research related to a complex series of events that took a long time to unfold (Yin, 2003). The longitudinal study was undertaken as it was considered that the process of production technologies development consists of a series of decision – making commitments which depend on a number of factors including the national and global context, the position of the firm at different chronological times its foreign market commitments etc. Furthermore, as Harrison and Easton (1998) comment “any single case study can be regarded as a set of case studies at different time periods”.

The data was gathered by in face-to-face, in-depth interviews with entrepreneurs and key personnel involved in the production technologies development, implementation and operation at various stages over a ten year period (2005-2015). Multiple other sources of evidence were used such as plant visits, company reports, press reports, awards and company websites.

## CASE DESCRIPTION

The case company was selected because of its exceptional strategy regarding the choices of production technology, the competitive advantages and its extroverted strategies as well as its excellent performance before and within the crisis in Greece. In addition, the firm was personally known to the author due to her involvement with the wood industry.

By way of background, the company is a highly successful woodworking firm established almost 100 years ago. Actually it is the oldest Greek wood-processing company and the largest export one today in its sector. It is a medium sized family owned company that specializes in marine plywood which is an expensive, water-resistant grade that is more tightly constructed and glued than ordinary plywood. M.M.P. SA sells to shipyards in Greece and abroad, as well as high-end constructors and traders all over the world. It is located close to Athens with its own port in front of the plant.

Back in the 90s, the new generation took over. Targeting the demanding markets of Western Europe, the company focuses on the production of high quality certified marine plywood. At that time it develops its own trading channel of Okoume logs from West Africa. Today (2016), the company is one of the most important and well known manufacturers of high spec Okoumé at least in Europe.

## THE ROLE OF PRODUCTION TECHNOLOGIES

### *Production Technologies and competitive advantage*

In 2005, external messages of the increasing weaknesses of the Greek market and the shutdown of many Greek shipyards troubled the M.M.P. SA's entrepreneurs who decided to invest in quality and sustenance as their core competitive advantages in order to reach foreign markets and establish a strong brand name.

Their new vision towards top quality marine plywood concentrates on innovative process technology with the development of novel stitching technology developed by a Swiss machine manufacturer. The pilot use of the innovative machinery created many technological problems that were solved by an excellent co-operation between the two teams. *"We had to specify technological parameters and conditions, to achieve the best quality after severe quality controls and to have the best behavior in the extremely expensive yachts it is intended to".* (Note: stitching is very important to secure zero "voids," the micro-spaces in between layers, to tightly adhering joints that do not let destructive moisture in. All parameters of finishing, grinding and cutting are done with closer tolerances than standard plywood, accounting for the very high cost of marine plywood). The whole procedure of *déroulage* veneer stitching took about two years to finish with decorative veneer stitching to follow in 2008.

In order to realize their new strategy, novel production technology was accompanied with handling machinery and SCADA in the existing production lines in order to increase productivity capacity, new store rooms. *"Quality is the spearhead of our competitive advantage – we produce the most expensive plywood in the world. The best raw material should be stitched with the best technology!"*

Today, M.M.P. SA produces one of the best and most expensive marine plywood globally and possesses the 4th position in the Greek wood-processing sector (2013). It is also one of the most advanced companies in quality and leadership worldwide. The company was awarded the International Star or Quality Award, Gold Category in 2010 given every year by BID Organization awarding cutting edge companies from around the world for their firm commitment to excellence, innovation and leadership.

In parallel, the entrepreneurs build the eco-character of the company. The entrepreneurs use raw material originating from sustainable and well managed forests and select their suppliers that meet the criteria set by the PEFC certification (Program for the Endorsement of Forest Certification), while building the firm's eco-image (e.g. participation in WWF actions). However, production technologies are also involved. Initially, they apply all prevention and safety measures and one year later they apply modern methods and continuous inspections, for a comprehensive environmental policy system. Two years later they invest in new technologies to eliminate water and waste while they develop their photovoltaic systems to produce the energy they need for the plant in terms of

sustainability. Machinery and production methods are adjusted in order to suit to the new ecological demands of the production; for instance, machinery and production lines have to be adapted to the formaldehyde-free, eco-glues.

Within the decade, the firms gradually obtain the FSC® certificate (Forest Stewardship Council) for the production process, thus fulfilling also the production side of the deep commitment to ecology. It is also certified with ISO 9011: 2008 (TUV Germany) and has obtained various quality Certificates due to the different specification of the various countries.

It can be therefore assumed that production technologies played a core role in the achievement of the competitive advantage of top quality and sustainability as set by the entrepreneurs.

### ***Production Technologies and innovativeness***

Innovativeness has been considered by many theorists and practitioners as a fundamental determinant of competitiveness. M.M.P. SA's efforts were concentrated in the provision of better and better quality of their product. *"We are constantly improving and modernizing our facilities and techniques, so that the final product meets the high quality standards set by international organizations"*, says the entrepreneur. After the initial investment in machinery and production lines, the company invested significant amounts in technology upgrading: *"In our business, quality is 50% the raw material and 50% the technology used. If a competitor makes a significant investment in novel technology we have to learn it soon enough! For example stitching is of enormous importance in our area. This is why we invested there! It actually controls the level of quality!"*

However, in 2007, the firm tried to produce plywood covered with melamine film which actually meant an innovative production technology. They co-operated with a French producer of melamine films and together they developed the base panels with a significant durability. *"We made several tests regarding durability. When we thought we were ready we certified the promised durability by offering guaranty."* This became the most profitable product for the following years and supported exports (especially shipyards in Holland) during the first difficult years in Greece.

In 2010, the firm works on the development of pre-varnished wood flooring while the same year they develop a novel line of fine-line veneers. During the recession years, the firm goes on investing in innovative efforts and optimization of the infrastructures; eco-efficiency and sustainability, incorporation of new materials, innovative adhesives, novel machine parameters and enhancement of mechanical processing are some of the areas woodworking the firms has invested so far.

Investments on innovative technology seemed to be a yearly basis: novel machinery for veneer stitching, development of novel decorative technology, a novel handling system with relevant handling and packaging machinery, the innovative base line production line (which turned to a big

success), and the engineering parquet investment were the most important ones within the decade under investigation. The firm uses reverse engineering, prepares business plans before the innovation project, and secures its efforts by registered trademarks.

It can be therefore assumed that production technologies play a core role in the innovation performance of the company whether in prosperity or crisis times.

### ***Production Technologies and exports***

In 2000 M.M.P. SA exported less than 20% of its production mainly in Arabic countries. As mentioned above, the new investment in production technologies took two years to finish; in 2008-2009 it started paying back while new investments in production technologies strengthened the extroversion of the company: *“Our extensive experience on the exploitation of production technologies and our product lines allowed us to adapt our complete production process to international quality standards and to produce plywood certified by Lloyd’s of London, Dutch KOMO, Italian CATAS, BS 1088 & CE, as well as the FSC ecological certification”*. Success supported the orientation to exports targeting at the global high-end markets.

In 2015, exports accounted for over 70% of the company's gross sales with the main export market to be the building construction and yacht building sector in a number of countries around the globe such as the Netherlands, Italy, Switzerland, Germany and the USA.

It can be therefore assumed that production technologies play a core role in the export performance of the company whether in prosperity or crisis times.

### ***Production Technologies and financial performance***

Did the investment on innovative production technologies pay back? *Yes!* according to the entrepreneurs’ opinion. *“They boosted our extroversion and this meant loyal customers worldwide.”* According to the company’s balance sheets, yearly turnover was increasing at rates around 10% per year until 2009. In 2009 the entrepreneurs feel the global crisis with a significant decrease in sales. However, they manage to keep losses lower than 5% yearly. The entrepreneurs become more cautious with their investments regarding technology. However they have to confront the severe socio-economic crisis in Greece; 2012 will be the worst year for the majority of the Greek entrepreneurial world. M.M.P. SA presents the worst turnover since 2000; the same year, its main competitor and actually the leading organization in the wood sector, went bust. M.M.P. SA seems to recover; turnovers of the following years present a gradual turnover increase.

It can be therefore assumed that production technologies play a core role in the financial performance of the company whether in prosperity or crisis times.



## DISCUSSION - CONCLUSIONS

The paper discusses the diverse and complex role of production technologies in low-technology industries and more precisely regarding the different types of performances in times of prosperity and crisis. It examines the importance of selection and/or development of production technologies as well as their relationship to competitive advantage and innovation performance and their impact on exports and financial performance.

It appears that production technologies are of core importance for M.M.P. SA. The company has established long-lasting relations with its machine and raw material suppliers for New Product Development (NPD), production and process advancing purposes; research focuses mainly on experimenting with innovative material elsewhere produced, and alternative processes following mainly the try-and-error method. There seems to be an embedded culture of constant experimenting, while know-how is achieved by technology transfer and development. In all individual cases of production technologies' projects wood processing technology, wood behavior science, chemistry, mechanical engineering, material engineering, ICT and automation technology are engaged.

The case analysis highlighted the fact that the transformation of the innovative business concepts into marketable products and competitive advantages presupposes the choice and set up of the suitable production technologies which seem to act mainly as a vehicle to create niche and sub-niche markets. The investigated firm turned to innovative technologies and machinery in order to incorporate novelty and develop technological capabilities for high-level differentiation. Continuous investments in technology enhance the firm's innovativeness, export and financial performance. Advanced production technologies enable the capture of lucrative and more value-added markets avoiding obsolescence. This means significant revenues and new markets in times of prosperity while secure market position and controllable losses in times of crisis.

It is quite interesting to mention that in many cases, production technologies appeared to be results of co-development covering technologies and knowledge from a significantly varied range. The novel stitching technology was achieved after active cooperation with machine makers and significant try-and-error efforts. In 2007, the plywood covered with melamine film plywood was actually a collaboration product with a French technology producer and a raw material provider. Thus, the case confirmed recent theories, according to which low-tech companies are more than just "borrowers" and passive adopters of technology (Hirsch-Kreinsen and Schwinge, 2011, Karagouni et al, 2013).

According to the case study, competitive advantages in manufacturing companies are built on production technologies, which impact significantly the various types of the company's performance. *"Lately we were awarded among the most developed firms regarding quality and leadership worldwide. The*

*criteria were the rate of growth during the last years and the market shares it has acquired. The ceremony will take place this summer in Genève” (the entrepreneur, spring, 2010).*

The study is, to our knowledge, among the very first to explore the role of production technologies regarding the different types of performances in low-technology industries. It is also among the first – if not the first one – to explore the topic in the prosperity/crisis framework. It is also among the first to explore the relationship between production technologies and performance in the wood sector.

The present study contributes to the literature of industrial dynamics in general, and more precisely to the specific stream that focuses on the relationship of plant heterogeneity and in particular of production technologies with various economic phenomena. Inquiries at the intersection between operations management and entrepreneurship are relatively scarce (Editorial of the special issue on operations management and entrepreneurship, *Journal of operations management*, 2011). It can also be assumed to advance discussion on the need of a theory on the interrelationships between technology and entrepreneurship especially for the pre-firm formation stage (e.g. Tan et al., 2009).

The study can be also considered a contribution of endogenous character; the understanding of the phenomenon within the Greek borders highlights problems and indicates solutions assisting the development of policies for low-tech industries which constitute a very important but volatile part of the Greek economy. The coincidence of the Greek depression stressed further the particular value of the evidence (although not initially intended).

In spite the study's limitations regarding the single case-study research design and the focus on the wood industry in Greece, some managerial implications can be reasonably drawn. Entrepreneurs and managers should put emphasis on developing innovation regarding technological aspects and more precisely production technologies in order to sustain strong competitive advantages and enhance performances. Taking into account the fact that the sector of wood and furniture was hit rather hard by the crisis with losses of more than 30% for the wood sector, investments on production technologies' innovation seem to provide a solution to crisis periods, especially for SMEs and a media to leadership in prosperity times.

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## RURAL ENTREPRENEURS IN MOUNTAIN AREAS: THE CASE OF PYLI IN GREECE

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### ABSTRACT

In Greece the majority of rural holdings are located in mountainous and rather problematic areas. According to literature, the study on the entrepreneur in the economic sense and, especially, the sub-issue of rural entrepreneurship are subjects of significant theoretical production and empirical analysis.

The present field research focuses upon the individual rural entrepreneur of the mountainous Pyli area, in Greece including one third of the existing enterprises of the area and thus providing an adequate sample for its purposes. The data of the study was captured using structured questionnaires and analyzed via the statistical package SPSSWIN ver 20.0.

Rural entrepreneurs are locals that run mainly family business. However, they lack relevant entrepreneurial knowledge and culture; they own underdeveloped entrepreneurial skills, are introvert and seem to depend on subsidies. They are not willing to innovate but they are hard workers who focus on the everyday living. On the other hand, a small but critical percentage of the respondents appear to be very active and invest in differentiation in an effort to resist the long-lasting socioeconomic crisis in Greece. These constitute the dynamic part of rural entrepreneurs of the area extracting real value from their mountainous environment against business owners who merely subsist. However, they still act in a rather closed entrepreneurial eco-system characterized by a myopic approach of the entrepreneurship issue in total.

Findings confirm existing literature and contribute to efforts for the development of policies to regenerate rural areas in Greece which is still in the severe fiscal crisis. They further add to the empirical evidence on the traits of rural entrepreneurs and their clear distinction from business owners.

**Keywords:** *rural entrepreneur, rural regions, mountainous areas, rural entrepreneurship, AITHIKOS project*

## INTRODUCTION

Research on entrepreneurship in rural areas remains relatively sparse especially within a crisis framework which produces further constraints in rural regions. Relevant literature is so far replicate of directions, policies and views while a recent but emergent stream focuses on the actual actor of rural entrepreneurship; i.e. the rural entrepreneur (Stathopoulou et al., 2004; Mitchell, 1998). For example, Lockie and Kitto (2000) explore the personality of those able to promote their business objectives and achieve the best results in rural areas; the authors conclude that rural entrepreneurs delve into the strategies or practices they use, the technologies they adopt and the forms of institutions they develop. In spite the recent efforts, there are admittedly significant knowledge gaps regarding the reality of rural entrepreneurship addressing agricultural and non-agricultural entrepreneurs and particularly the ones in the less favored mountain areas.

Using a field study approach and encompassing a complex set of traits and individual issues, the present paper purports to add to the knowledge on the driving force of the rural economy; i.e. the actual entrepreneur. Specifically, the research maps the characteristics and traits of rural entrepreneurs in the mountainous area of Pyli in Central Greece. Findings confirm existing literature and add to the empirical evidence on the traits of rural entrepreneurs and their clear distinction from business owners. Therefore, it contributes to the better understanding of who the real rural entrepreneur in mountainous areas is and what the identical type should be. EU political practice should pay more attention to the suggestions of this, as well as similar empirical efforts, in order to decode the real needs and address critical issues such as the multi functionality of the agriculture-bases entrepreneurship or the variety of the non-agricultural business. Policies should be further specified at national and even regional level.

The following section of this work contextualizes the study in the literature. Section 3 introduces the reader to the methodological considerations and presents the area of investigation. The empirical part constitutes actually a mapping exercise placing the rural entrepreneurs of the specific Greek mountainous area (Pyli, Region of Thessaly) under the microscope within the current and long-lasting crisis framework. Statistical data will be discussed in order to produce useful insights and observations about the future of rural entrepreneurs and ways of advancing their entrepreneurial behavior, culture and identity. The concluding section includes future research, limitations and some policy recommendations.

## LITERATURE REVIEW

### *The Rural Entrepreneur*

Rural entrepreneurship constitutes a subset of the entrepreneurship literature and an emerging area of research (McElwee and Smith, 2014). According to an epitome of relevant literature, population density in combination with percentage of people in rural communities and in contrast to the size of urban centers may define the “rurality” of an area (OECD, 2005; Skuras, 1998). Furthermore, rurality, as defined by Stathopoulou et al (2004), reflects a “territorially specific entrepreneurial milieu with distinct physical, social and economic characteristics in which location, natural resources, the landscape, social capital, rural governance, business and social networks exert dynamic and complex influences on entrepreneurial activity”. Besides its name as “rural entrepreneurship” the field covers “a myriad of other activities (namely industrial activities)”, according to Miljkovic et al. (2010). In essence, rural entrepreneurship is keen to offer added value to rural resources rendering in this process rural-based human resources (North & Smallbone 2000).

In the same vein, it is quite problematic to define rural enterprises too. In general and according to the relevant definition of McElwee and Smith (2014), rural enterprises are located in rural settings, employ local people and generate income flows to the local environments. Business in rural areas are usually small ones with a more personal image; they are mainly one-person or micro-firms and although called “rural” they actually cover a large variety of farm, re-creation and non-farm activities (Whitener, and McGranhan, 2003).

However, even in such cases, profitable entrepreneurial choices are strongly related to social capital and more precisely the rural entrepreneur (e.g. Agarwal et al., 2004). In spite the quite vast literature on traits and characteristics of entrepreneurs in general, rural entrepreneurs’ profile remains a highly under-researched research topic. Hoy (1983) delineated their profile as “. . . independent, risk-taking, achievement-oriented, self-confident, optimistic, hardworking and innovative”. Stathopoulou et al (2004) note that rural entrepreneurs choose to derive personal satisfaction from business, while, according to Mitchell (1998), they can “trade” the countryside as 'culture' either by idealizing the rural lifestyle as a promotion strategy or by re-creating landscapes of preindustrial form, and reproducing pre-industrial goods, services and leisure activities as a diversification strategy. On the other hand, Smith (2008) suggests that they adopt slow paces of life and run relatively stable business. McElwee and Smith (2014) highlight the need of further research on the background of the rural entrepreneur and whether growing up in a rural area influences the entrepreneurial characteristics. Another stream of literature draws attention on the capabilities issue (Winter, 2003; Teece, 2007). Rural entrepreneurs seem to be unable to cultivate entrepreneurial capabilities or absorptive capability or even a

strategically based mindset in order to address the environmental dynamism and achieve business growth.

In general, rural entrepreneurs have been studied in regard of distinct but in many ways interrelated topics: a) the research on 'entrepreneurs' demographic traits' includes aspects such as age, gender or origin of the entrepreneur (Pato and Teixeira, 2014); b) research on the 'entrepreneurial psychological traits' regards mainly motivation and lately lifestyle (e.g. Hollick & Braun, 2005), tendency for innovation and marketing (Polo-Peña et al., 2012). A recent stream has also focused on the role and importance of embeddedness as the identification of the relation of rural entrepreneurs with their location, the networks they develop and the collaborations they build (e.g. Kalantaridis and Bika, 2006; Gerasymchuk, 2009).

Regarding the human aspect and thus the entrepreneurs' issue, in-migrants have also received considerable research attention. Several recent studies have highlighted and attempted to understand their skills, expertise, resources and network relationships that they bring. A number of studies have focused even in differences and similarities between them and locally-born individuals (Kalantaridis, 2010).

In addition, the exceptional characteristics of rural areas and more precisely of mountainous areas appear to set a quite different background than the usual one where usually the entrepreneurship issue is examined. Rural economy is constantly changing and is vulnerable to global changes. The ageing population is not normally replaced while outcomes of relevant policies do not seem to pay back (McElwee and Smith (2014). The authors argue that due to the lack of specific entrepreneurial culture and the existence of strong introversion, rural entrepreneurs do not trust advisors for financing or strategy or other issues. On the other hand, family is central to the rural business; support is sought in family, or business is "inherited" by family members.

Rural entrepreneurship especially in mountainous areas is quite under researched but it has started attracting the interest of researchers (e.g. Moreira et al., 2000; Meccheri and Pelloni, 2006) mainly after 2000. Furthermore, sustainable mountain development has remained marginal in the international development agenda and in national and sectoral policies (e.g. Jodha, 2008). Mountain communities and their environments are still vulnerable to growing demand for natural resources, expanding tourism and the pressures of industry, mining, and agriculture.

#### *Mountainous Greece*

In general, rural regions represent more than half (57%) of the European territory and 24% of its population (EC, 2012). Especially mountain regions are dominated by the agricultural sector, present a rather poor socioeconomic environment and a rapid decline in employment (López-i-Gelats, Tàbara, and Bartolommé, 2009), while they suffer from distance to markets and services.



Greece is largely mountainous; actually 80% of the country is covered by mountains making the country the third most mountainous country in Europe after Norway and Albania. The main sources of wealth are agriculture and livestock (around 61.7%) as well as tourism especially after 1995. However, the population of these areas suffers of isolation and remoteness, with direct effects on their economic and social development. According to Sergaki and Iliopoulos (2010), the main weaknesses for the development of mountainous areas in Greece are the intrinsic geomorphic conditions; the structural problems of local economy and the institutional and organizational weaknesses, which affect competitiveness of these areas. The mountainous topography and the spatial distribution of natural resources define the structure and location of manufacturing activity (Kiritzis and Tampakis, 2004). The ageing of the primary sector's workforce, the infrastructure deficiencies of the secondary sector, the inadequate use of natural resources, the increase of part time-employment and the decrease in competitiveness of locally produced goods and services, the rural depopulation and the high dependence of rural income on subsidies constitute significant problems of the Greek rural entrepreneurship (e.g. Papadopoulos and Liarikos 2003). For example, extremely high transportation costs enhance isolation and remoteness with negative impact on workforce mobility as well. On the other hand, the same disadvantages, i.e. remoteness and isolation, have favored the preservation of the natural environment, the unique landscapes and basic traditional production methods. In the less developed mountainous areas, cultural traditions can be found, while social trust, solidarity rules, cooperation networks and support mechanisms are absent. Rural entrepreneurs have a quite significant role to play as contributors in new venture creation, as well as catalysts in enhancing prosperity in these areas while preserving the untouched beauty of the environment.

## EMPIRICAL PART

### *The socio-demographics of the Pyli area*

The investigated mountainous area is situated in the rural heartlands of the Municipality of Pyli, at Trikala Prefecture in the Region of Thessaly, Central Greece. The area is characterized mountainous or highland (percentage 87.38%); it is comprised by a 9.90% of cultivated land, a 12.55% of grassland and a major 75.95% of woodland. It has a population of approximately 14,000–15,000 (HEL.STAT., 2011) and it has thirty-three distinct rural districts. Besides the natural beauty and attractions of the mountain, a significant number of sparsely monuments of historical, cultural and aesthetic significance enhance the touristic value of the area. At times of prosperity (2000-2008), the increased domestic tourism led to a significant increase of tourist accommodation units supporting the development of other entrepreneurial activities in the area, as well. The area was not considered an economically fragile community before the severe socio-economic crisis; on the contrary it was an

example of a prosperous rural entrepreneurial eco-system based mainly on primary sector, handicraft and tourism. However, the eight years of recession have caused significant negative changes in the area's entrepreneurial life. Today, forest exploitation is limited to the production of forest products, especially timber and forage production, with 24 wood and wood products micro and small firms, 24 furniture manufacturers and one paper pulp- paper and paper-products plant which serve mainly the local and national market. The majority of the rest manufacturing business belongs to the food sector; they are small family enterprises that satisfy the local needs. Tertiary sector still constitutes the 43.8% of the entrepreneurial activity; however, the severe decrease of domestic tourism caused the ceasing of tourism operations.

#### *Methodological approach*

The research followed the quantitative research approach under the positivistic research philosophy. Research was conducted in 2015-2016 i.e. the seventh year of the severe socio-economic crisis. The population of the study consisted of around 300 enterprises as registered by the relevant authorities. The sample was chosen to include the primary, secondary and tertiary sectors of the local economy. In order to collect the necessary data, a structured questionnaire was prepared and random sampling was engaged. Likert scale was used for the majority of the questions. The research was conducted by skilled researchers who addressed the entrepreneurs of the firms by personal face-to-face interviews. Although the research targeted at a sample of 100 respondents (1/3 of the total population), the response rate was 87% yielding a quite satisfactory sample. A pilot study confirmed the reliability of the constructs.

The data were recorded, processed and analyzed via the statistical package SPSSWIN ver 20.0 and the appropriate tests for frequency (Frequencies), descriptive statistics (Descriptives) and variable comparison analysis (Crosstabs), were conducted. When correlation tests were required logistic regression was used since the response variables were bivalent categorical. The statistically significant -or non- effect of factors was estimated, based on the p-value (sig.) at 5% significance level and the related odds ratio was estimated, too. The goodness of fit of the models to the questionnaire data was tested by conducting Hosmer-Lemeshow tests. Additionally, the predictive ability of the models was estimated via validation tables (Classification Tables).

For the processing of responses to questions measured in Likert scale, methods of graphical visualization were used, as well as non-parametric tests (e.g. Friedman Test) to evaluate the statistical significance -or non- of the differences presented in the graphs. Non-parametric tests were conducted, due to the normality test resulting in that the data were not normally distributed, an outcome that was expected.

## RESULTS - DISCUSSION

Sampled firms represent quite satisfactorily rural entrepreneurship in the selected mountainous region; services appear to be the dominant economic activity area and more specifically tourism (mainly accommodation, restaurants and bars) with a 55,7% and trade with 21,4% while manufacturing companies are really scarce (4.6%). The primary sector covers an 8%, while a 6% falls under the special group called “mixed activity” and regards firms that combine the above sectors (e.g. farming and hospitality). Almost half of the enterprises were established before 1990 and one quarter of them before the new millennium. Most of them are run by the second or third generation.

Mountainous Greece is not famous for its strong enterprise culture - few Greeks purported to know an entrepreneur. While most of them possess entrepreneurial skills and are indeed hard working by nature, they seldom present as stereotypical businessman-entrepreneurs. Especially those working in the primary sector; they work hard in order to produce and sell quality goods but they cannot see the entrepreneurial side of their activities. It is quite interesting the fact that 95% have stated above average satisfaction from the course of their business (Likert scale, 1 to 5) while no-one stated “not satisfactory at all” (Figure 1). Taking into consideration that the year of the field research is the eighth year of the severe crisis in Greece, these answers denote the lack of entrepreneurial attitude and culture, as well as the lack of specific business targets and strategies. This view was further confirmed by the fact that no statistically significant relation was found between the level of satisfaction and the yearly turnovers. It appeared that rural entrepreneurs were very satisfied no matter the turnover level they belonged (even with turnovers less than 100.000€).

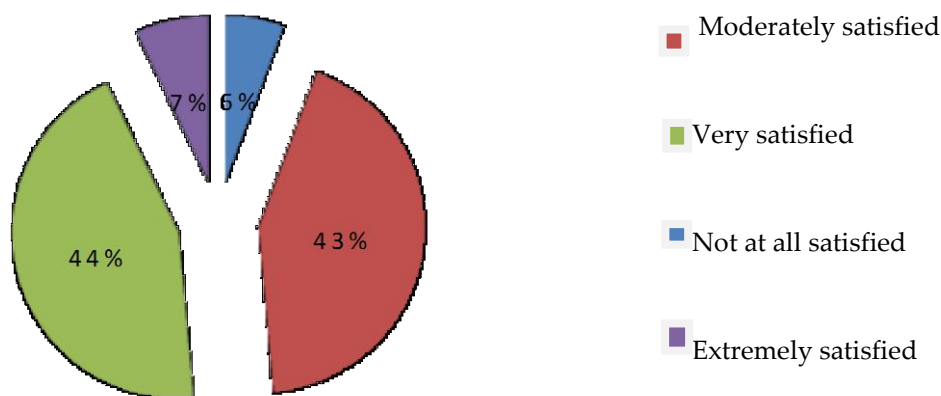


Figure 1: *Level of satisfaction of the business's course*

The majority (70%) of the respondents state that they are not intending to add or diversify products or expand the business in the following three years, indicating a rather passive attitude against the crisis framework that imposes the need of action. It is only an 11% of respondents that indicated their new product / service orientation by marking 4(=strong) and 5(=very strong) in Likert scale. This

result, in combination with the satisfaction levels discussed above, seems to explain the main difference between entrepreneurs and mere business owners; the first group decodes the dynamics of the environmental uncertainty while the second ones are just happy to earn their everyday living and remain static. Going even further, adherence to local conditions and markets (65,7%) and the non-existent exports denotes the intense introversion. On the other hand, those that extend at least at national level appear to seek out opportunities and act in more entrepreneurial ways. It should be mentioned that all of respondents are of a good reputation, known as diligent agents who contribute significantly to the local community; however not all of them are conscious of the entrepreneurial side of work.

However, the large percentage of the passive respondents may also reflect to a certain point, the general defensive behavior against the decline of viability of the mountainous areas in general, the closure of public infrastructure such as local post offices and tax offices due to the crisis as well as the closure of pubs, hotels and shops. Yet, against the threats of the deep recession, 80% record no intention to cease their business supporting further the good image of the sample as hard-workers and people of strong will. Retirement constitutes the most reported reason of ceasing business (n=9) well ahead of the other reasons mentioned; i.e. financing difficulty (n=3), a new job in another place (n=2) and personal reasons (n=2) while all other reasoning was reported by only one respondent each.

Why, then, these individuals run their own business? Besides the 4% of new businesses started by immigrants, the rest of the sampled firms were well-established ones. According to the results, people were rural entrepreneurs in the area they were born and grown up (85,7%) to continue their family business (30%), increase their income while still living with their family (21,4%) or become independent within the wider family environment (a sum of smaller percentages of different reasoning, Figure 2). The finding confirms relevant literature (e.g. McElwee and Smith, 2014); regarding the lack of conscious development of entrepreneurial culture, the existence of strong introversion, and, eventually, the core role of family. It is worth mentioning that necessity entrepreneurship seems to be non-existent.

The importance of family is also highlighted by the fact that the 95% of the sampled firms are micro-firms occupying only family members. This is in line with relevant literature; e.g. Smalbone (2009) states that rural areas are dominated by micro businesses and they mostly consist of solo owner/managers.

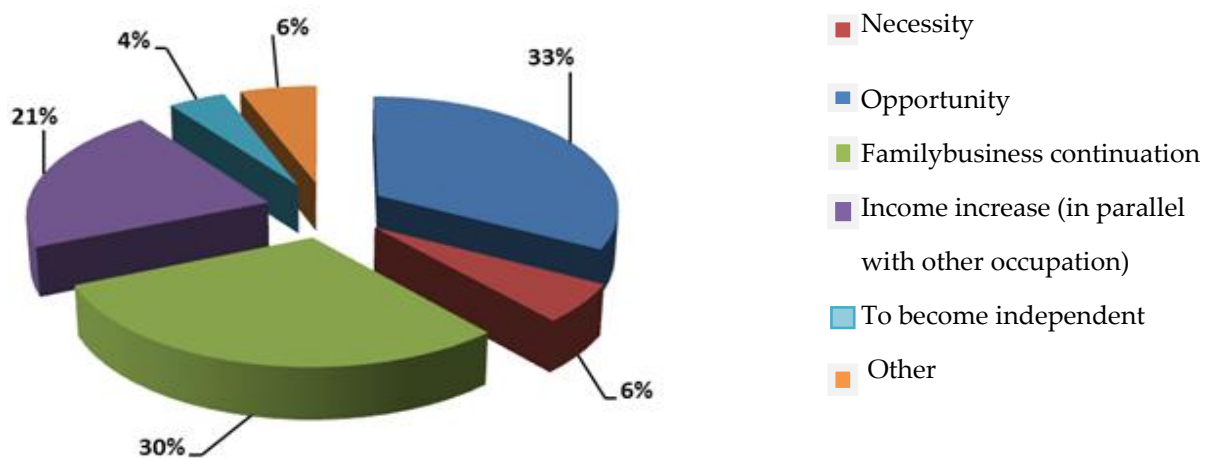


Figure 2: *Reasons for entrepreneurial activity*

Within this framework, it is worth noting the lack of knowledge regarding entrepreneurship and entrepreneurial skills. A significant percentage of 58.6% stated that they have received no education or any kind of training regarding their business or any type of managerial and entrepreneurial knowledge. According to the results, lack of proper education is mainly due to the non-existent relevant infrastructures in mountainous areas. Under this general umbrella, the need for entrepreneurial knowledge as well as more special knowledge issues (e.g. hospitality) has been mentioned. However, it is important that the respondents could locate the relevant weakness. This denotes that the questioned entrepreneurs are not the “narrow-minded” rural agents described in several papers and have definitely leaved behind the rural “comfort zone” (Smith, 2008). They appear to have recognized the local socio-economic dynamics and the deep recession has surely played its role in overcoming them. Cooperation with knowledge agents and access to information and advice have been recognized as critical ways to enhance the local ability to enlarge business activities. This is in line with relevant findings in other countries as well; for example, North and Smallbone (2006) suggested the creation of an appropriate entrepreneurial education infrastructure in rural regions of Portugal. Therefore, investment in building the necessary entrepreneurial culture appears to be in top priorities of the local business population of the mountainous Pyli area; the development of entrepreneurial skills and capabilities was among the higher rated proposals for the improvement of the community’s wellbeing (rated second after the taxation reduction proposal).

A significant finding regards the tendency for innovation. The majority of the respondents (88%) consider innovation and marketing as vital for the creation and sustenance of strong competitive advantages and a means to reach foreign markets. The respondents consider the use of ICT as well as the development of differentiated products and services as their most powerful innovative efforts so far. However, they appear to hand on the state support since the last decades subsidies (mainly programs such as Leader and Leader+) have been the main financing sources for rural mountainous

investments. Some of them take advantage of the exceptional countryside and the combination of cultural-religious-social environment of the mountainous area and create innovative activities overcoming the disadvantages of location. Then the mountainous lifestyle becomes “an experience” translated into leisure activities for all seasons for those involved in tourism or it becomes the background for the reproduction of pre-industrial goods and services promoting retro-innovation as the core diversification strategy. Furthermore, the majority of the respondents think positively on greening their current enterprises in order to enhance growth and competitiveness. Actually, more than the half of them believe that they own green business although it was quite obvious that they were not well acquainted with the concept.

According to the field research findings, a small but critical percentage of the respondents appear to constitute the dynamic part of rural entrepreneurs of the area extracting real value from their mountainous environment against the percentage of business owners who merely subsist. However, they still act in a rather closed entrepreneurial eco-system characterized by small-scale nature of most business, a high degree of locality, interconnectedness of personal, business and social life and a myopic approach of the entrepreneurship issue in total.

## CONCLUSIONS

This research has been conducted within the framework of rurality, as defined by Stathopoulou et al (2004), i.e. “a territorially specific entrepreneurial milieu with distinct physical, social and economic characteristics in which location, natural resources, the landscape, social capital, rural governance, business and social networks exert dynamic and complex influences on entrepreneurial activity”. The study purported to contribute to the understanding of the actual profile of active entrepreneurs in rural and more precisely in mountainous areas which are far more disadvantaged than the rest, for a series of reasons such as accessibility, whether conditions, cultivation opportunities and so on. A deeper knowledge of necessary traits, behaviors and skills fostering or inhibiting rural entrepreneurship will bridge the existing research gap and will certainly assist the design and implementation of future development policies.

It appears that in mountainous Greece there is no cultural affinity to the entrepreneurial ideal. Local people invest on the business they found by their families such as livestock and farming or they exploit EU initiatives and subsidies to expand their residences to agro-tourism lodgings. Businesses are in their majority family affairs that grow and mature together with the owners and cease working when the owners are too old and have no descendant to take over.

According to the results, all rural entrepreneurs are hardworking actors. It is actually the entrepreneurial spirit that is missing and most of them are actually passive business owners that

genuine active entrepreneurs. Therefore, it appears that the most important challenge to tackle is the creation of distinctive entrepreneurial identity. Practicing and perpetuating entrepreneurship in this context requires the initiation of new behaviors, values and practices. This can be done by building “entrepreneurial capacity” (North and Smallbone, 2006); i.e. by training people on entrepreneurial skills and attitudes, offer well-organized knowledge on entrepreneurship and relevant capabilities as well as create links and easy access to knowledge providers. On the other hand, the organization of a rural enterprise incubation park, the upgrade and further support of the necessary infrastructure and the creation and sustenance of a relevant business association could create the necessary dynamism for the local rural entrepreneurs to transcend local borders and export or attract the interest of other countries’ consumers as well.

In a more general approach, the study contributes to entrepreneurship theory by examining rural entrepreneurs within their mountainous entrepreneurial eco-system in which they put effort in creating and extracting value from an environment in perpetuity. Consequently, a main contribution of the study seems to be its indication that there is a significant difference or rural entrepreneurship even at local level which is highly influenced by specific individual characteristics instead of only the territorial ones suggested by Stathopoulou et al (2004).

According to the findings, economic development seems to reside essentially in the actions of this particular type of genuine economic agents. This can form a critical mass to lay the foundations for novel types of entrepreneurship such like innovation-based, network-based or social entrepreneurship. Here comes also the role of the State and the EU; the transformation of business ownership to actual entrepreneurship requires the implementation of actual, precise, integrated and competent policies.

Admittedly, the results are tentative since the research bears certain limitations. In the first place, a significant drawback was the lack of sample diversity since the analysis was limited to only one geographically bounded sample limiting the generalizability of the findings. However, this choice enabled the control for potential confounds due to cross-region differences, increased the internal validity and provided the main contribution of the study highlighting the significance of bottom-up approach of every single area of interest when regarding rural entrepreneurship and policy making.

Furthermore, surveyed businesses have survived the long severe socio-economic Greek crisis; this might cause survival bias while the absence of a longitudinal analysis derives our research by a more evolutionary perspective and relevant useful insights. In addition, it appears that the questionnaire did not address the critical issues of embeddedness, networks and collaborations which have been addresses as significant components in the relevant literature. Furthermore, this research could not

assess the role of immigrants in local rural entrepreneurship since it appeared that the eligible percentage in the sample could not allow for useful insight.

Consequently, further research could attempt to replicate similar analyses in different geographic, sectoral and territorial contexts, enrich the content of the questionnaire and explore reasons of failure. Researchers are also encouraged to explore the issue at case study level and from a longitudinal/historical perspective.

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## ENTREPRENEURIAL FEATURES OF THE CREATORS OF INNOVATIVE ENTERPRISES

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### ABSTRACT

This study aims to deepen the knowledge of innovative entrepreneurs and what motivated them to establish their businesses in an environment full of rapidly changing technology and economic globalization. Particular attention has been paid to the creation and development of innovative enterprises with high knowledge content. In this study about the creators of innovative enterprises, it is necessary to consult the literature on innovative entrepreneurship. To reach this goal, we begin by questioning the concept of innovative enterprises and showcase their particularities. Then, we turn our attention to the specific qualities of the innovative entrepreneur. Finally, we will try to identify the decisive environmental determinants advanced by the work carried out on innovative entrepreneurship and determine their influence on the creation of innovative enterprises.

**Keywords:** *Entrepreneur, Environmental determinants, Innovative companies, Social Innovation Particularity.*

### INTRODUCTION

Leave Currently, countries are looking for innovative companies, citizens, modern and satisfying for job creation needs and collective wealth (Gasse, 2004). These companies have an incontestable contribution to regional development and economic dynamics (Borges, Simard and Filion, 2005). From that moment; many authors have retained special attention to technological entrepreneurship by focusing on the particularities of creating innovative companies and especially their entrepreneurs.

It should be noted, however, that the creation of a technology company is a particularly delicate exercise because of the risk on its activity and the uncertainty of the environment (Bernasconi, 2003). This has led many authors to ask this question: What leads some individuals to create innovative enterprises? What specific determinants in the creation of this type of enterprises?

In this regard, the aim of this article, first, is to present the particularities of these enterprises and second to study the determinants leading the individual to create an innovative company. These determinants are linked to the innovative entrepreneur and the environment in which it is inserted.

## INNOVATIVE COMPANIES

### *Definition of an innovative company*

Many studies conducted on innovative companies, indicated a number of criteria differentiating these enterprises from other forms of companies including traditional companies. Hedlund emphasized the need to distinguish between a traditional enterprise and innovative enterprise as much as the first has a form oriented towards rational and appropriate goals for a stable environment, against the second has a form suitable to changing conditions and problems and unpredictability of the action (Hedlund, 1994).

Similarly, Albert makes a distinction between traditional enterprise and innovative enterprises in terms of uncertainty. He stated that while uncertainty is huge for high-tech companies, it is less for traditional companies that operate in a more stable environment and for large companies with a portfolio of activities allowing them to diversify their risks.

In the literature, several names have been given to innovative companies. We mainly cite High-Tech enterprises, advanced technology companies, innovative companies (according to the French translation) or High Tech Firm, Knowledge-Based Firm or New Technology-Based Firm (NTBFs) in English (Albert, 2000).

Albert and Mougenot propose a classification of these companies into three groups, based on the technological intensity of the change introduced. Thus, they distinguish innovative companies, having a general feature of innovation, the two other subset have a special feature of the innovation (Albert and Mougenot, 1988). Innovative companies include the two other types of companies namely, innovative firms and advanced technology companies (ETA).

- Enterprises advanced technology: these are companies that develop and / or exploit new technologies in different applications for different markets.

- Innovators Businesses that launch new products or new processes with technological content, from classical and advanced technologies.

- Innovative companies: These are companies launching new products or new services or using processes, new marketing or new modes of management without technological content.

Park (2005), on his part, defines a high-tech enterprise like an enterprise that uses or invests in an emerging technology or rapidly evolving as a key factor in the development of its product, its production and its marketing strategy (Park, 2005).

For their part, Ayadi, Arlotto and Jourdan propose a wider definition of the innovative company by adding other features such as: age, size and the existence of a technological nonindustrial innovation (in the service sector). Thus, they specify that innovative company is a young company (under the age of 10 years), medium-sized or using or significantly invests in emerging technological innovations or

rapidly growing as key part of its development process, of its production, its delivery or its service (Ayadi, Arlotto and Jourdan, 2005).

#### *Specificities of innovative companies*

High-tech companies allow specific studies to address a number of specificities distinguishing them from other more traditional companies. Albert illustrates these specificities in five principal characteristics, namely (Albert, 2000):

- They operate in very unstable sectors of activities because of the rapid evolution of technologies such as electronics, computers and telecommunications. Due to the speed technology combined with the new products, the emerging markets and the unpredictability of the competition these companies face considerable some uncertainty like a common feature.
- Their research and development budgets are more important than of other enterprises. They are related to the high level scientific community. These companies' products and/or services have a high added value and often a (quite) short life cycle.
- They disturb the market balance by introducing innovations and changes in offer/demand and by creating new markets.
- They are characterized by specific needs and financing methods involving very specific actors (Venture Capital, Business Angels, etc.).
- Their activity requires higher investments than other non-innovative companies.

After presenting the main definitions and specificities of innovative companies, it seems important to study the peculiarities of their creative process.

#### *Features of the process of creating innovative companies*

Some authors have shown that the process of creating high-tech enterprises have certain features including high needs in terms of resources, a significant dependence on knowledge and new technologies, a remarkable difficulty for the development and commercialization of product / service, considerable existence of entrepreneurship team and the presence of partnerships with other social actors (Albert, 2000; Benavent and Verstraete, 2000; Bernasconi, 2000; Samuelson, 2001). Indeed, in their comparative study of 77 technology companies and 115 traditional companies, Borges, Filion and Simard showed that the process of creation of technology companies is longer and more difficult because of the need to develop the technology, features of their market and their increasing resource needs (Borges, Filion and Simard, 2006).

A similar result was found by Samuelson in his study of 233 companies in Sweden. It indicates that the process of creating this type of enterprises is longer and less linear. The author stresses that traditional companies usually imitate the creative process of existing companies, while innovative companies must find their own path and even invent new markets (Samuelson, 2001).

In that vein, we note that innovative companies and their creative process differ from other companies. Therefore, it is legitimate to try to explain the phenomenon of creating this type of enterprises. To this end, we discuss in what follows the theme of the actor of this phenomenon who is the innovative entrepreneur and the specific environmental determinants in the creation of innovative companies.

## THE INNOVATIVE ENTREPRENEUR

In the literature on the creation of innovative companies, the character of the innovative entrepreneur is considered central. Very particular characteristics have been given to this individual. In what follows, we try to present studies interested in the profile of innovative entrepreneur and typologies that can be mobilized to better understand its course.

### *The particular profile of innovative entrepreneurs*

**Gender and age.** The creation of technology companies interested in men more than women, such as highlighting Ayadi, Arlotto and Jourdan (Ayadi, Arlotto and Jourdan, 2005). According to these authors, technological entrepreneurs are men in 80% of cases. These entrepreneurs are relatively young (Danjou and Dubois-Grivon, 1999; Blais and Toulouse, 1992) and are generally aged 30 to 40 years (Ayadi, Arlotto and Jourdan, 2005) and 35 to 44 years for (Borges, Filion and Simard, 2006).

**Level of Education.** Many studies have shown that innovative entrepreneurs are distinguished from other creators by their high quality education (Bernasconi, 2000). In fact, in their exploratory study of 22 innovative companies, Danjou and Dubois-Grivon found that 95% of them have at least a level Bac + 5 and half are doctors or engineers Drs. Similarly, Ayadi, Arlotto and Jourdan note that in 2005 and in the national competition for the creation of innovative technology companies in France, 50% of promoters are PhD students and 34% are engineers. In the same vein, Borges, Filion and Simard confirm that the creators of technology companies are more educated than the creators of traditional companies. In fact, technology entrepreneurs with a bachelor's degree or more represent 67% against 39% only for other entrepreneurs. In addition, 26% of technology entrepreneurs hold mastery or doctorate against 9% other (Danjou and Dubois-Grivon, 1999; Ayadi, Arlotto and Jourdan, 2005; Filion and Simard, 2006).

**Experience.** According to Tesfaye and Fayolle, technology entrepreneurs create their enterprises after working in related sectors of the industry in the new company which they acquired their skills and experience with the product and the technology used (Tesfaye, 1997; Fayolle 1999). So they have a good knowledge of markets, technologies or industry (Gasse, 2002). This professional experience can last an average of 12 years (Danjou and Dubois-Grivon, 1999). For Borges, Filion and Simard these entrepreneurs have a 16 years' experience on average in the labour market, 9 years in the business sector created, 8 years in a management position and more than half (54.5%) have created already another company (Filion and Simard, 2006).

*Team contractors.* Several authors have recognized the collective character of the creation of innovative companies (Bernasconi, 2003). In fact, these authors showed that the majority of entrepreneurs in high technology create a team (Borges, Bernasconi and Filion, 2003; Cooper and Daily 1997; Cooney, 1999; Gasse, 2002). This team is formed by an average of three people who are usually family members, friends or co-workers (Prevezer, 2001; Reynolds et al, 2004). Martinez Sanchez and Urbina Perez found that 91% of technology companies located in the north of Spain is created by more than one contractor. They stressed that the partners are highly qualified and are able to complete the contractor's competences (Urbina Perez, 1998). The formation of a team allows, according to Bernasconi to entrepreneurs to join resources and complementary skills (Bernasconi, 2000). Oakey confirms this reality by focusing on the need to bring together expertise and managerial skills to successful high-tech companies (Oakey, 2003).

*Motivations.* There are several motivations leading to create technologies enterprise. They borrow some motivations related to the creation of Non-technology Company such as the need for independence (Urbina Martinez Sanchez and Perez, 1998), the need for achievement and family background (Park, 2005; Danjou, 1999; Albert and Mougenot, 1988). However, other specific motivations to technology entrepreneurs have been demonstrated. Park speaks of the desire to achieve innovation, Colombo Delmastro highlight the conviction to introduce something new. This view is similar to that of Schumpeter (in Mustar, 1997) that an individual will engage in entrepreneurial path if it is safe to be able to reward his efforts and enjoy a monopoly, even temporary (Park, 2005; Colombo Delmastro, 2002). Vesper, Blais and Toulouse, on their part, note that individuals passionate about technology development are more likely to create technology companies, as well, Bruno and Mcquarrie Torgrimson in their study of 250 new technology companies in northern California, have compiled loyalty to a product or technology as a particular motivation for innovative entrepreneurs (Vesper, 1980; Blais and Toulouse, 1992; Bruno and Mcquarrie Torgrimson, 1992).

*Typology of innovative entrepreneurs.* The study of typologies of entrepreneurs is interesting in that it allows a better understanding of technology entrepreneurs and pathways leading to undertake (Bernasconi, 2003). The typology the best known is that of Bernasconi offers five types of configurations of entrepreneurs in high technology (Bernasconi, 2000):

*Orchestra man.* It is an engineer or a scientist who, alone, is launching a project based on a technology that he overcome. Dynamics of the project will depend on the qualities and skills of the entrepreneur. This type of entrepreneur is now quite rare due to the need to form a team for the creation and development of a high tech company.

*Essaimage of researchers.* This type is for researchers who create their enterprises in order to valorise the work that they have made in their research laboratories (public or private). The control of the most

advanced technologies allows these researchers to initiate and develop highly innovative projects. Essaimage is through the creation of a new enterprise agreement with the laboratory.

*Professional Essaimage* involves the creation of a new company by a team that pilots an activity in an existing enterprise. The expertise of the team members has already been acquired and initial costs and risks are often supported by the company left.

*The orchestra professionals* correspond to the formation of a team of professionals in order to launch a project recognized as especially innovative. The team is formed by individuals with complementary skills. The proper functioning of the founding team will give credibility to the project and reduce risk.

*Young adventurers* are young entrepreneurs who have created their enterprises, just after graduation or two or three years after or even before completing their training through an opportunity that has appeared particularly in new technologies and the Internet. These young entrepreneurs lack the skills related to the field of management, marketing and finance.

This typology is close to that one proposed by Jones-Evans, based on four types of entrepreneurs *technologically built* on their previous experience:

- *The researcher*, issued from public laboratories and university research environments.
- *The producer* belongs to the areas of production or product/process development, often within a large company.
- *The user* performs a peripheral role in the development of a technology (for example, in sales or marketing).
- *The opportunistic* usually is an entrepreneur with little or no experience in the technology field but has identified a technological opportunity.

Once this job on innovative entrepreneur, the specificities of environmental determinants leading to the creation of innovative companies should be considered and addressed (Jones-Evans, 1995).

## ENVIRONMENTAL DETERMINANTS OF THE CREATION OF INNOVATIVE COMPANIES

The characteristics of a dynamic environment that attracts and facilitates the creation of innovative companies have been the subject of several theories; the most important are the clusters or innovative environments.

### *The innovative environment*

The theory of innovative environments was developed by the work of GREMI (European Research Group on Innovative Environments) to explain the spatial concentration of innovative companies in very specific areas (Aydalet 1986; Quevit 1991; Perrin, 1991; Maillat, 1992). These areas that may be techno polis (Zghal and Labidi, 2007) consist of technology companies, research centres, universities

and support structures for the creation of companies such as incubators and financing networks (Bernasconi, 2003) and whose principle is based on the notion of proximity (Gilly and Torre, 2000; Rallet and Torre, 2001). This latter generates synergy effects (Haddad and Poncet, 2006) to develop interaction between these actors and therefore the dissemination of knowledge and access and exploitation of technological complementarities (Mezouaghi 2002).

Bernasconi illustrates the benefits of innovative environments in five main families (Bernasconi, 2003):

- Advantage in terms of experience and motivation for the entrepreneur (entrepreneurial culture success stories, favourable policies);
- Advantages in terms of costs (land economy);
- Advantages in terms of resources (human, financial, contracting);
- Advantages in terms of access to the first customers;
- Advantages in terms of learning and innovation.

The region of Silicon Valley in the US is the ideal model of an innovative environment consisting of a large number of companies with high technological potential and supporting a dynamic regional economy and rapid growth (Collinson and Gregson, 2003; Castells, 1998).

Thus, the existence of such an environment offers special attractions to potential entrepreneurs and encourages them to create technology companies. Besides this environment, it is also necessary to highlight the role played by the supporting devices to enterprise creation.

#### *The devices support business creation*

Verstraete and Saporta emphasize that support mechanisms for entrepreneurship have overriding objective to promote the creation of new enterprises in a well-defined territory (Verstraete and Saporta, 2006). According to these authors, these devices are structured in three main axes: financial support, development consulting and training networks (in order to reduce information asymmetry and reduce the risk of failure of young entrepreneurs) and logistical support (through the creation of structures accompanying such as nurseries and incubators).

Financial support may be manifested by the participation of specific factors such as capital investment companies risk (SICAR) and individual investors called Business Angels. The SICARs are specialized in corporate finance through participation in capital and the sharing of risks and opportunities, and Business Angels are former entrepreneurs who aim to bring money and advice to young entrepreneurs. Conversely other investors, Business Angels do not seek immediate returns.

Jacquemin gives the example of the French government has taken several fiscal and regulatory measures in order to encourage the creation and development of innovative companies. He cited mainly the impetus of the law on Innovation July 1999 (which aims to increase support for innovation), the foundation of regional incubators and research networks and technological innovation, creating seed funds (these are funds for financing the first phase of the business creation process, including the



design and maturation of ideas) and the contest for the creation of innovative technology companies (Jacquemin, 1999).

Research into innovative entrepreneurship, dealing with devices supporting entrepreneurship, however, paid particular attention to the role of nurseries and incubators hatch innovative companies.

*The importance of the role of incubators and innovative business incubators*

Messeghem and Sammut state that incubators and business incubators are support structures whose mission is to ensure the reception, accommodation and support for project managers and business leaders. They add that in addition to these missions, nurseries should facilitate the creative integration in his environment by putting it in relation to the different actors from the technology community, economic (customers, suppliers...) and institutional (access to devices aid, subsidies, public procurement, venture capital, legal knowledge...). The nurseries also provide management training to improve the profile of a technician to become an innovator responsible for Business (Messeghem and Sammut, 2007)

Culière concluded that to enrol in a nursery or incubator can contribute to the credibility of the creative project and increase its legitimacy and therefore the legitimacy of his business with external actors (Culière, 2005).

All these findings led some to characterize this type of accelerator structure or catalyst of the entrepreneurial process. Indeed, Colombo Delmastro notes that the technology incubator is a catalyst for the decision to embark on the creation of an innovative company (Colombo Delmastro, 2002). Similarly, Berger-Douce points out that the regional incubator has an entrepreneurial (Berger-Douce, 2003). The results process enabling character of a qualitative study by Fitzgerald, Murphy and O'Connor, confirm this reality showing that the specialized training, availability of resources and the existence of incubators have a major role in facilitating the creation and development of technology companies (Murphy and O'Connor, 1984).

The importance of environmental determinants inherent in the creation of innovative companies is thus undeniable in the development of a positive perception of the environment surrounding the contractor and the impetus of innovative business initiatives.

## CONCLUSIONS

This study had the ambition to explore the factors stimulating the emergence of innovative entrepreneurs. The findings reveal that prepared the courses leading to the creation of innovative companies interact with factors related to the contractor and external factors inherent in its environment.

Regarding technological entrepreneur, the literature reveals the existence of some special features on it that prompt start a business. It appeared that there was consensus among researchers about the importance of education, experience, motivation and the existence of an entrepreneurial team. As an illustration, let us remember that technological entrepreneur is a man in the majority of cases, highly qualified, with previous experience in the field of activity of the new company and that often begins by forming an entrepreneurial team. This individual is generally passionate about the development of technology. All these make the innovative entrepreneur has some expertise in its field allowing him to bring something new.

To these individual characteristics, literature proves the importance of the environment surrounding the creator in favouring and facilitating the creation of innovative companies. Thus, innovative environments as technology parks and support mechanisms for the creation (such as financial institutions, consulting and training networks, nurseries and incubators) developed to mitigate the risks inherent to the particular of these companies and boost entrepreneurial initiatives.

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# CONCEPTUAL REVIEW OF DAIRY CO-OPERATIVES IN INDIA, AS AN IDEAL ECONOMIC MODEL: THE CASE OF DAIRY CO-OPERATIVE FROM WESTERN MAHARASHTRA

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## **ABSTRACT**

Cooperatives, as a form of business organisation, play a meaningful role in uplifting the socio-economic conditions of their members and their local communities. In Indian context, co-operatives, have run as a member centric, democratic organisation, focusing on economic and social development and transformation. Challenges of the 21<sup>st</sup> century for all corporation include, turbulent financial markets, unstable economies and financial systems, rising levels of unemployment; no government protection, competitive markets, dumping of foreign goods, growing disparity, and environmental concerns. In this globalised economy, cooperatives have played a pivotal role in offering a financially viable and socially responsible business organisation .

The paper documents the evolution and remarkable growth of the Indian dairy co-operative, over the last few decades. The White revolution, in India, was promoted by the Government of India, through Operation Flood, establishment of NDDB. The paper documents the success of dairy cooperatives in Western Maharashtra, India, which has played a key role in the social transformation.

**Keywords :** *Dairy Co-operatives, Operation Flood, White Revolution, Anand Pattern, Milk Marketing Federation, Western Maharashtra*

## **INTRODUCTION**

Although the word “co-operative” is a word that can be used for any group activity with a common purpose, it is a formal business organization, which has its origins in Europe and North America in early 18<sup>th</sup> century. It was further strengthened in England, by the founding fathers of the Rochdale Consumer Co-operative in 19<sup>th</sup> century. Even today, the guiding principles and laws governing the co-operatives which foster economic and social development are based on Rochdale principles.

According to the International Co-operative Alliance, (ICA) a non government organization having membership of 230 organisations, 800 million members, from over 100 countries, is a recognized

association of co-operatives. It has defined, co-operatives as, “A autonomous association of persons, united voluntarily to meet their economic, social and cultural needs and aspirations through a jointly owned and democratically controlled enterprise.” Further, according to Zeull and Cropp, (2004), the evolution of the co-operative movement and establishment of co-operative form of business organization, can be traced to the social and economic factors. They were created, sustained and grew in times of economic slowdown, distress and social turmoil.

Further, a co-operative is like any other corporation, which has a perpetual existence, a separate legal entity, limited liability of its members and common goals and set of principles and is governed by an elected Board of Directors, on behalf of its members. In order to survive and grow, it should also make enough earnings to meet and its expenses sustain, thus it must be a financially viable organisation. However, the striking difference is that, co-operatives are member oriented and member centric, and not investor oriented. Thus profit and wealth maximization is not pursued the way it would be pursued by a corporation ( Zeull and Cropp, 2004).

## **MILK COOPERATIVES- GLOBAL SCENARIO**

About 700 billion liters of milk is processed each year by dairy companies around the world and the global demand for dairy products is increasing ( Mani,2013). The reasons for the growth in demand are population growth, increased disposable incomes and preference for dairy products as part of diet ( Mani,2013). Further, cooperatives play a very important role in the milk dairy sector. Half of Europe's top 10 dairy companies are cooperatives. Nestle and Danone are companies in the private sector. FrieslandCampina from Netherlands, Germany and Belgium is the biggest dairy cooperative in the world. In terms of revenue, Nestle, a Switzerland based company is the largest in Europe followed by Danone from France. Aria Foods, Denmark is the 4th largest dairy cooperative in the world in terms of revenue.

FDB or The Danish Consumers Cooperative Society is a consumer cooperative based in Denmark. FDB is the largest member and consumer organization in Denmark with more than 1.6 million members. In western countries, milk has been a staple part of the daily diet. In these countries people eat and drink the equivalent of 240 to 250 kilograms per person per year.

Fonterra is global milk cooperative in New Zealand who collect 22 billion liters of milk every year and share it with the world. Fonterra is the world's largest global milk processor and dairy exporter. Through their integrated supply chain popularly called “grass to glass”, they deliver high quality dairy products and a portfolio of consumer brands to customers around the globe. Over the last 140 years, their over 10,500 farmer shareholders have built up their cooperative to be a world leader in dairy excellence, and produce 16 billion liters annually. Organic Valley, a dairy cooperative with

headquarters in Wisconsin is one of the major players in USA having over 1723 farm members as of 2012 (Mani, 2013).

If the growth of dairy cooperatives is spectacular in Europe and USA, it was mainly sponsored by government in developing countries. For instances, in India, cotton textiles, sugar and dairy cooperatives were success stories. In Tanzania and Kenya, coffee cooperatives were also effective. In Bangladesh, textile cooperatives and self-help groups (SHG) were becoming financially viable business units. In India, after liberalization and globalization, the dairy cooperatives survived and were effective even after withdrawal of government support.

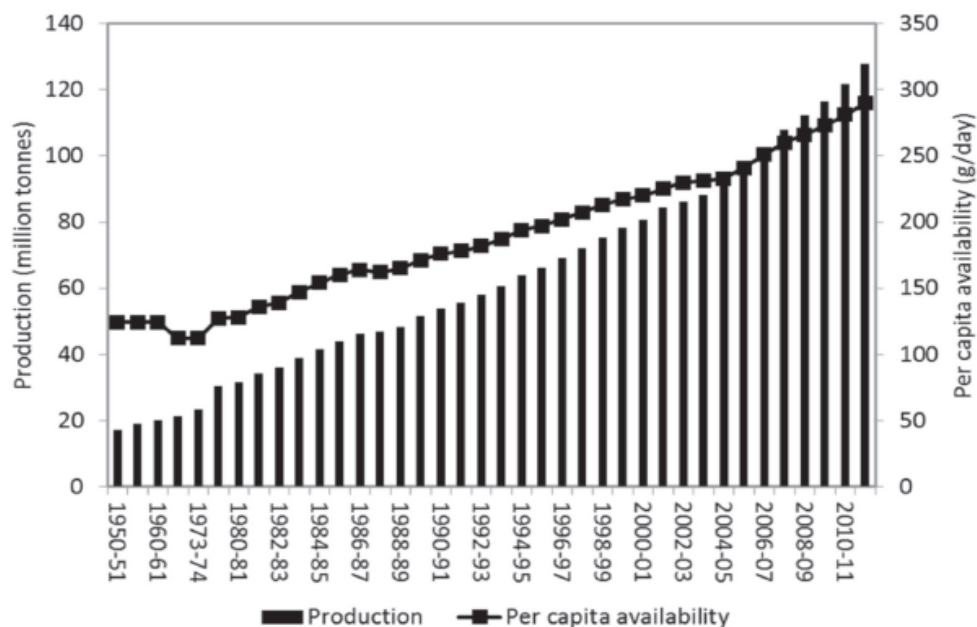
## **EVOLUTION OF DAIRY COOPERATIVES IN INDIA**

In over 100 years of their existence, cooperatives have emerged as a distinct sector of Indian economy. India is not only the largest milk producer but also one of the most economical producers in the world. According to statistics, the cost of 100 liters of milk production in 2005 in India is 20.54 USD against 21.10 USD in New Zealand, 41.00 USD in United States and 52.00 USD in Canada (Mani, 2013). India's milk production continues to increase and as of now is over 90 MMT. The per capita consumption of milk doubled from 111 grams per day in the early 1970s to 222 grams per day in 2000. Hence these dairy cooperatives have played a major role in the economic and social development of rural India and has also provided vital ingredient for improving the health and nutrition of the Indian population. With more than 6 lakh cooperatives and having 98% coverage in the rural areas, they are the "development agent" in the rural area and also the booster centers of other small co-operatives such as textile, poultry, and agriculture. The cooperative model has proved to be most reliable in the times of economic recession when other organisations have come under lot of pressure; It has the ability to build umbrella brands, have line and product extension, so as to survive in unstable markets and economies.

In India, cooperatives have been favoured and encouraged by Government. The political parties saw cooperatives as instruments, for furthering their political agendas where they could reach out to masses and local communities, and garner subsidies and funds which could be siphoned off for their political interest. There were success stories in sugar and cotton cooperatives in India. However, after 1990's liberalisation of Indian economy, withdrawal of government support and subsidies, many co-operatives could not withstand the competitive forces of the market and had to be shut down. However one co-operative, which has always been successful from its establishment and also made a steady profits and as also contributed to its members welfare is the dairy co-operatives.

## GENESIS OF DAIRY CO-OPERATIVES IN INDIA:

Indian agriculture is an economic symbiosis of crop and cattle population. Dairying has become an important secondary source of income for millions of rural families and has assumed a most important role in providing employment and income generating opportunity (Nargunde, 2013). India has the largest population of cattle in the world. More than fifty percent of the buffaloes and twenty percent of the cattle in the world are found in India and most of them are milch animals (Mani, 2013). As of 2012, there were 22 State Cooperative Federations, 170 Milk Producer Unions and over 70,000 Village Dairy Cooperatives in the country. The milk production is close to 96 million tonnes. This is supplied by millions of rural small milk producers contributing 62 % of total milk produced in the country. Further, the milch animals are fed on crop residues and milch animal dung is used as manure for crops (Nargunde, 2013). The dairy sector today provides 80 million farm households the triple benefits of nutritive food, supplementary income and productive employment for family. Animal husbandry provides self-employment to millions of households in rural areas. Dairying with crossbred cattle and high-yielding buffaloes has become a lucrative business.



**Figure 1. Trends in milk production and per capita availability of milk in India: 1950-51 to 2012-13**  
 Source: GoI (2014)

Figure 1 : Trends in Milk Production in India from 1950-2013

Source : Sharma(2015)

Milk production was more or less stagnant during the 1950s and 1960s and annual production growth was negative in many years (Figure 1). The per capita availability of milk declined which concerned the policy makers. During the second-half of the 1960s, the Government of India made major policy changes in the dairy sector. Milk production in rural milk sheds through milk producer



cooperatives and movement of processed milk to urban demand centres became the cornerstone of government policy for dairy development. This single policy initiative of the government gave a boost to dairy development through (i) linking-up rural producers with the urban consumers through pricing, procurement, processing and marketing, which reduced transaction costs, and (ii) large public investments in the milk processing sector (milk procurement centres, chilling plants, milk processing and product manufacturing plants) through cooperatives, which acted as a catalyst to bring about the white revolution in the country (Sharma, 2015)

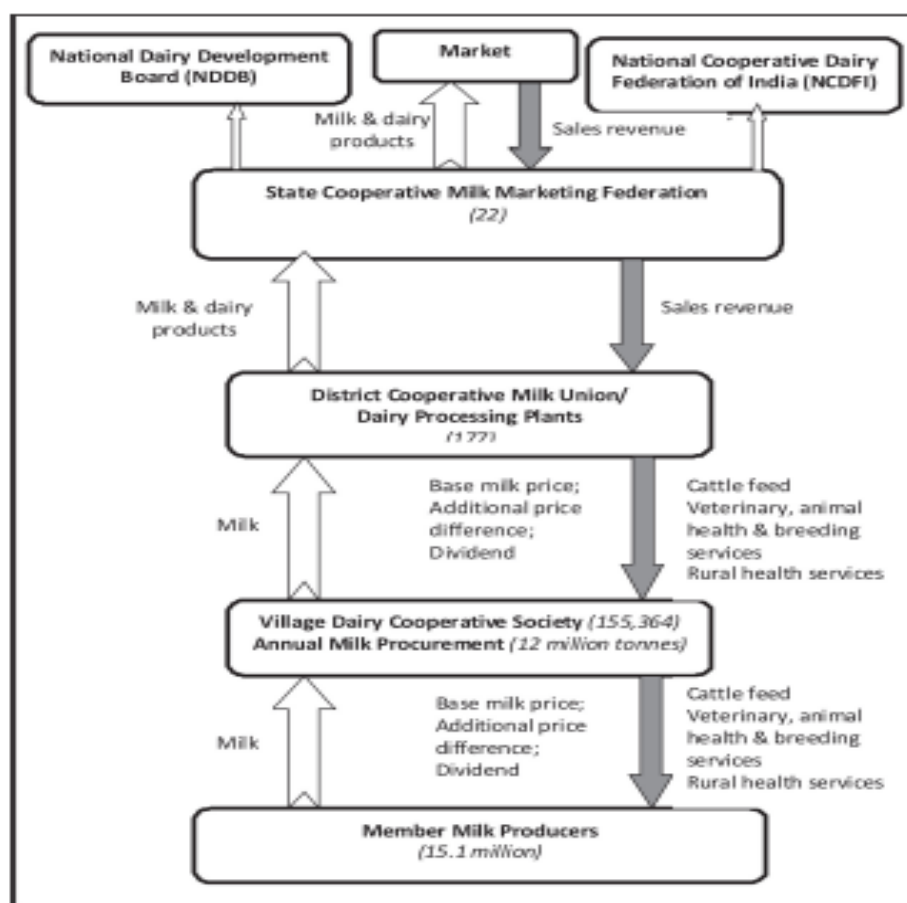


Figure 2. Three-tier "Anand Pattern" of dairy development in India

Figure 2 : Three Tier " Anand Model of Dairy Development in India

Source :GCMMF (2012) and NDDB (2013)

Anand pattern, as is popularly known is one of the earliest dairy cooperatives in India and is based at Anand in the state of Gujarat. The cooperative was formed in 1946 and today managed by the Gujarat Cooperative Milk Marketing Federation Limited (GCMMF) which is jointly owned by 3.03 million milk producers in Gujarat. The revenue in 2010-2011 was U.S\$ 2.15 billion. The Anand model is a 3 tier model (Figure 2) consisting of Dairy Cooperative Societies at the village level affiliated to Milk Unions at the district level which in turn is part of a Milk Federation at the state level. Further, the Milk Marketing Federation, which has the technology and the expertise for milk marketing and is an Innovation, Entrepreneurship and Digital Ecosystems

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important chain in the distribution of fresh milk or processed milk products. Apart from this, there is an unorganised channel, where the milk production, collection, processing and distribution is done locally.

Year	Production (Million Tons)	Per Capita Availability (gms/day)
1991-92	55.7	178
1992-93	58.0	182
1993-94	60.6	187
1994-95	63.8	194
1995-96	66.2	197
1996-97	69.1	202
1997-98	72.1	207
1998-99	75.4	213
1999-00	78.3	217
2000-01	80.6	220
2001-02	84.4	225
2002-03	86.2	230
2003-04	88.1	231
2004-05	92.5	233
2005-06	97.1	241
2006-07	102.6	251
2007-08	107.9	260
2008-09	112.2	266
2009-10	116.4	273
2010-11	121.8	281
2011-12	127.3	288

**Table I Production of Milk in India from 1991-2012**

Source: Department of Animal Husbandry, Dairying & Fisheries, Ministry of Agriculture, Government Of India Statistics (2013)

## **BUSINESS MODEL OF DAIRY CO-OPERATIVES IN INDIA**

Dairy Farmers, in Anand, Gujrat, first joined together as a village level dairy cooperative, whose chief objective was to collect, milk; the next level was the District level cooperative – Kaira District cooperative, which stored, and processed it. The same was then marketed through another organization, which was at the apex – namely Gujrat Milk Marketing Federation. They undertook

**the storage in silos, logistics, and distribution across the state and sometimes across other states and also export to different countries.**

One of the success factor for Anand Pattern is the Marketing strategy, which starts with the pricing strategy. The purchase price is based on the fat content of the milk, which is fixed at Rs.18 per liter ( US\$ 0.265 ) for cow milk, whereas for buffalo milk it is a bit higher at Rs.22 (US\$ 0.324) per liter. The unique feature of this scheme is that, this price is assured to the dairy farmer and is unchanged, irrespective of demand and supply. The private players keep changing the price of milk, as per dynamics of demand and supply.

Indian dairy co-operatives has made remarkable progress over the last two decades as is depicted in Table I. The evolution of the dairy co-operative, specially Operation Flood, has been an important driver of this progress and has played an important role in facilitating the participation of small dairy farmers in this expanding sector (Sampathkumar and Anbu,2012). Trends indicate that, the unorganised channel of dairy farmers continue to play its dominant role in milk marketing as out of the 3700 cities and towns in India, organized channel of dairy co-operatives serve only 778 cities, towns and villages. It is therefore the urban demand that is the primary source of revenue for rural milk producers. Only 15% of the milk marketed is packed, of which 94% is in pouches ( Sampathkumar and Anbu,2012).

India is the world's largest milk producer, accounting for more than 13% of world's total milk production. It is the world's largest consumer of dairy products, consuming almost 100% of its own milk production. According to Nargunde( 2013), Dairy products are a major source of cheap and nutritious food to millions of people in India and the only acceptable source of animal protein for large vegetarian segment of Indian population, particularly among the landless, small and marginal farmers and women. Indian Dairying is unique in more than one ways. Contributing about 5.3 per cent to India's agricultural GDP, milk is a leading agricultural produce. The value output from milk at current prices during 2006-07 has been over Rs.144386 crores which is higher than the output from paddy (Rs.85032 crore) alone and is also higher than the value output from Wheat (Rs.66721 crore) and sugarcane (Rs.28488 crore), put together (Nargunde,2013). It is heartening to note, that dairy industry in India, is generating employment for 120 million rural households and is a vehicle of social and economic development as depicted in Figure 3.

### INDIAN CO-OPERATIVE MOVEMENT - A STATISTICAL PROFILE 2012

Employment in Organised Sector		
	2008	2010
(in million)		
• Public Sector (Govt.+Quasi+local)	17.674	17.862
• % of Female In Public Sector	17.20	17.89
• Government Sector (Central + State)	9.910	9.905
• Quasi & Local Bodies	7.764	7.957
• Private Sector	9.875	10.846
• % of Femal In Private sector	25.03	24.55
• Cooperative Sector (Direct + Self Employed)	16.69	17.80
• Credit Cooperatives	0.483	0.416
• Non Credit Coops & Others	0.733	0.799
• Self- Employed In Cooperatives**	15.47	16.58

Figure 3: Indian Co-operative Movement post liberalization

Source : Statistical Profile, Government of India. 2012

Further , the milk procurement, production and its reach to the urban and the remotest part of the country, is also enhanced. Dairy co-operatives have given a fresh lease of life to farmers in drought-prone areas. Milk production and its transparent marketing system through the cooperatives are providing an assured source of income to farmers helping them sustain themselves against recurring drought. The migrating population is settling down. About INR 20,000million (US\$ 300 million) is the income generated from dairy farming business in the country. Operation Flood has, therefore, emerged in India as the largest rural employment scheme. It has been able to modernize the dairy Industry and also created opportunity for marketing its dairy products globally.

## DAIRY CO-OPERATIVE IN WESTERN MAHARASHTRA

In 1958 Dairy Development department was established in the State of Maharashtra with the objective to increase the production and procurement of milk in the rural area of Maharashtra with a view to ameliorate the economic condition of the rural farmers and to supply wholesome and hygienic milk to the city consumers at a fair price.

Maharashtra is the seventh largest producer of milk in the country, accounting for 34.76 lakh kgs per day, in 2014-15. About 75 lakhs people depend on the dairy sector in Maharashtra state for their livelihood. However, per capita milk availability is lowest in the state, which was 196gms per day in 2010-11 has increased to 219 in 2014-15. Changes in demographic pattern, education, income structure, lifestyle, changing aspirations, cultural orientation, increasing awareness about nutritive value, Innovation, Entrepreneurship and Digital Ecosystems

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changes in consumer behavior, introduction of new technologies, new expectations of consumers and other such factors have influenced the demand for milk & milk products. The livestock population and milk production has increased significantly over the years in the state due to the implementation of various dairy development programmes.

**Table 7.31 Milk production and per capita availability**

Year	Milk production (MMT)		Per capita availability (grams per day)	
	State	All-India	State	All-India
2010-11	8.0	121.8	196	281
2011-12	8.5	127.9	206	290
2012-13	8.7	132.0	210	295
2013-14	9.1	137.7	215	296
2014-15 <sup>#</sup>	9.4	143.3	219	NA

Source: Office of the Commissioner of Animal Husbandry, Govt. MMT million metric tons NA Not available # Anticipated

**Table II : Milk Production and per capital availability in Western Maharashtra**

Source :Economic Survey of Maharashtra (2014)

### AVERAGE MILK PROCUREMENT BY COOPERATIVE DAIRIES

	2014-15	Apr-Dec 2015	Apr-Dec 2014	%increase
Gujarat	151.82	163.79	140.15	16.87
Karnataka	58.61	66.20	58.80	12.58
Maharashtra	32.41	34.76	30.79	12.89
Tamil Nadu	24.35	30.18	23.17	30.25
Rajasthan	25.35	23.51	23.08	1.86
Bihar	16.76	17.00	15.69	8.35
Andhra Pradesh	12.22	12.64	11.73	7.76
Punjab	12.79	12.00	11.27	6.48
Kerala	10.18	11.04	10.16	8.66
Madhya Pradesh	11.03	9.39	10.58	-11.25
Odisha	4.40	5.24	4.30	21.86
Telangana	4.23	5.09	4.11	23.84
<b>All-India</b>	<b>378.33</b>	<b>405.42</b>	<b>355.29</b>	<b>14.11</b>

Note: Only states procuring above 5 lakh kg per day. Source: National Dairy Development Board

**Table III : Comparative Statement of Milk Procurement in India**

Source : NDDB (2015)

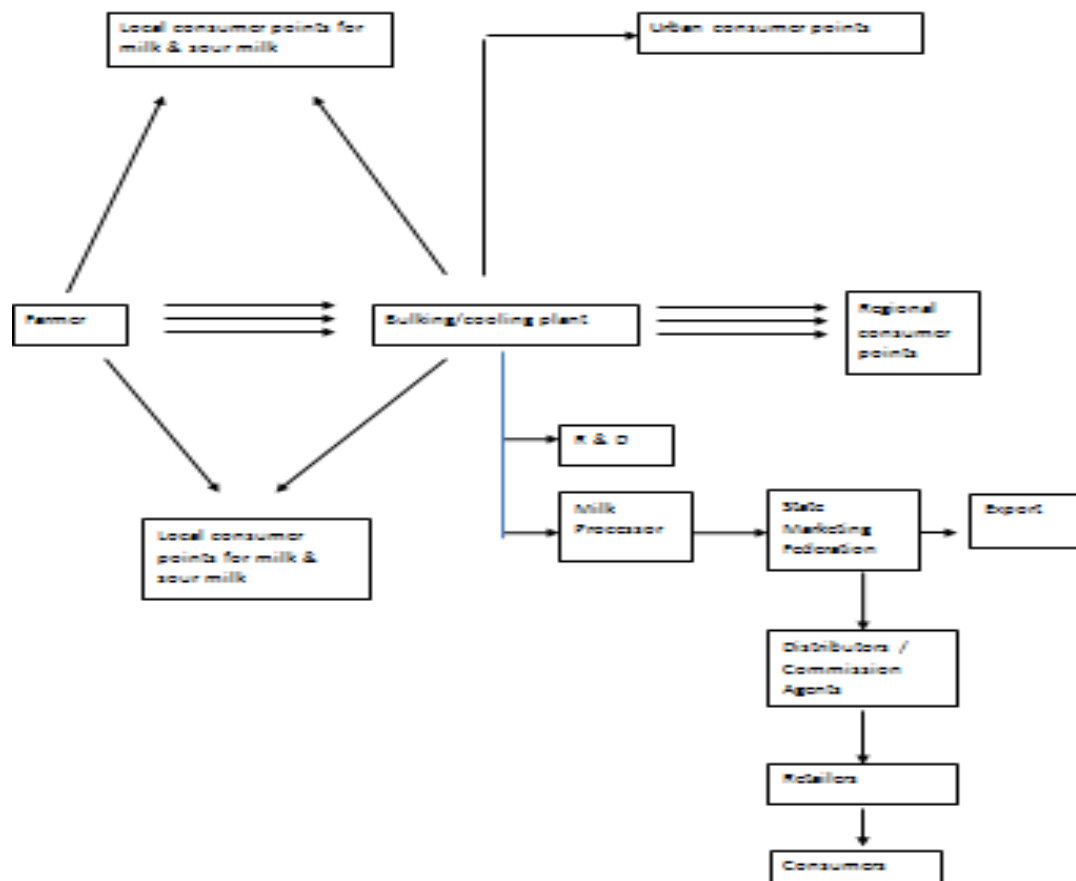
During 2013-14, there were 108 milk processing plants and 118 chilling centres with capacity of 45.31 lakh liters and 30.79 lakh liters per day respectively under government and co-operative sectors together. The average daily collection of milk by the government and co-operative dairies taken together was 39.19 lakh litres during 2013-14 and 43.33 lakh litres during 2014-15. There are 194 cold storage centres with capacity of 6,115 MT, of which 170 cold storage centres with capacity of 5,550.5 MT are with private sector.

Like the Anand Pattern, Dairy cooperatives of Western Maharashtra is made of small dairy co-operatives at the village level, clubbed into district co-operative and at the apex – Maharashtra Maharashtra State Milk Marketing Federation called Rajya Sahakari Dudh Mahasangh Maryadit (MRSDMM). A list of the various dairy cooperatives in western Maharashtra is given below including their total sales – in litres per day for all district level cooperatives. The demand for low-cost milk is in urban areas, whose individual household requirement is small, nevertheless, it adds up to a sizable volume of 22 -25 million liters per day. An estimated 50 % of the total milk produced by Western Maharashtra dairy co-operatives is consumed in urban areas and metros. Presently, the organized sector both cooperative and private and the traditional sector cater to these markets like Mumbai, Navi-Mumbai and Thane, which are in close proximity to their districts of western Maharashtra.

S.No.	Name of dairy Co-ops. / Private dairies	Location	Brand name/Product name	Total sales in lpd ( Litres Per Day)
01	Kolhapur zillasahakaridudhutpadaksangh	Kolhapur	Gokul	465361 lpd
02	Koyanasahakaridudhutpadakprakriyasangh ltd	Khodashi, Satara	Koyana	60000 lpd
03	Pune zillasahakaridudhutpadaksanghmaryadit	Katraj, Pune	Katraj	400000 lpd
04	Satarazillasahakaridudhutpadaksanghmaryadit	Satara	Raw milk	80000 lpd
05	Rajarambapupatilsahakaridudhsangh	Islampur, Sangli	Krishna	
06	Shivamrutdudhutpadaksahakarisanghmaryadit	Akluj	Shivamrut	1,70000 lpd
07	Shree Waranasahakaridudhutpadakprakriyasangh ltd	Warananagar, Kolhapur	Warana	1,60000 lpd
08	Baramatitalukasahakaridudhutpadaksangh ltd	Baramati, Pune	Nandan	40000 lpd
09	Parag milk foods pvt ltd	Manchar, Pune	Govardhan	
10	Krishna khoresahakaridudhutpadakvapurvathasangh	Miraj	Raw milk	75000 lpd
11	Krishna valley sahakaridudhpurvathasangh ltd.	Wai, Satara	Raw milk	65000 lpd
12	Mayur co-operative milk producer's ltd	Kolhapur	Mayur	68000 lpd
13	Phaltontalukasahakaridudhpurvathasangh ltd.	Satara	Govind	105000 lpd
14	Swaraj India Industries Ltd	PhaltanSatara	Swaraj	65000 lpd
15	Chaitanya dairy agro products	Khatav, Satara	Chaitanya	45000 lpd
16	Chitale dairy	Palus, Sangli	chitale	400000 lpd

**Table IV :District Dairy Co-operatives of Western Maharashtra**

Source: Khamkar(2014) .Complied from Annual reports of the above mention dairies.



**Figure 4 : Proposed Model for Dairy Co-operatives in Western Maharashtra**

Source :Khamkar(2014)

The proposed model suggest that every farm would be connected to chilling plants which will accept the milk from the all the dairy farmers, irrespective of whether the farmer belongs to that particular district dairy co-operative or not. All dairy co-operative are registered with the apex state level federation namely – Maharashtra Rajya Sahakari Dudh Mahasangh Maryadit (MRSDMM) and even though they belong to different district level co-operative, they can give their milk supply to the nearest chilling plant. This would increase the shelf life of milk, reduce logistics and marketing cost, and also further, brand management. MRSDMM would also have common R & D, processing units and umbrella brand entitled, “Mahananda”. MRSDMM has as per this model, created a broad distribution network including commission agents, who would supply to various retailers so as to reach the ultimate consumers in urban areas including the major metros like Mumbai and Pune in India. MRSDMM is also tapping the export opportunities, for “Mahananda” abroad. MRSDMM is thus working as a vital link between the milk producers and consumers and working for the economic development and upliftment of the farmers in the rural area.

The dairy co-operatives are important contributor in Maharashtra State's economy. The milk production is set to achieve a new boom and hence the need for marketing through apex organization (MRSDMM), and use common facilities like chilling plants, use aggressive marketing through umbrella branding and skimming pricing policy. Dairy Cooperatives of western Maharashtra's major contribution is in providing newer avenues for employment, both direct and indirect, and its role in improving the nutritional standards of our people. With proper encouragement and member support, cooperative can scale new heights in the near future.

## CONCLUSION

Dairying has been considered as one of the activities aimed at alleviating the poverty and unemployment especially in the rural areas in the rain-fed and drought-prone regions. In India, about three-fourth of the population live in rural areas and about 38% of them are poor. Further, in 1986-87, about 73% of rural households own livestock. Small and marginal farmers account for three-quarters of these households owning livestock, raising 56% of the bovine and 66% of the sheep population. According to the National Sample Survey of 1993-94, livestock sector produces regular employment to about 9.8 million persons in principal status and 8.6 million in subsidiary status, which constitute about 5% of the total work force. The progress in this sector will result in a more balanced development of the rural economy (Nargunde, 2013). The ANAND pattern of dairy development, has evolved and been refined over the last 50 years. Operation Flood has also been successful programme, especially for rural development and employment generation. Liberalization of world trade in dairy products under the new trade regime of the WTO poses new challenges and has opened up new export opportunities for the dairy industry in India. It is observed that, in co-operatives in western Maharashtra, need to control their higher transaction costs, improving milk marketing infrastructure to compete in the market place. It also has the potential to tap large international market. It must focus on innovative marketing strategy for brand building and line extension like Amul – through the Anand Pattern.

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## THE IMPACT OF THE COMPANY'S POLICIES AND THE LEADERS ON EMPLOYEE BEHAVIOR – A CA MODEL

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### ABSTRACT

In this study we examined how the density of ties between workers and the size of non-formal groups affect employees behavior in the presence of three mechanisms: the influence of leaders, company's encouragement policy and company's punishment policy. To analyze the dynamics of changes in views and attitudes in social groups based on local interactions between workers the cellular automata (CA) model was used. The employees' environment was modeled as a discrete two-dimensional space, which consists of a finite square lattice of cells. Informal groups of employees were represented as the von Neumann's neighborhood of radius  $r = 1$  (4-elements neighborhood) and von Neumann's neighborhood of radius  $r = 2$  (12-elements neighborhood). The main results are that (1) greater network density and bigger size of non-formal groups cause more workers to adapt behavior supported by the management and (2) the impact of punishment policy is smaller than the leaders and encouragement policy.

**Keywords:** *employee behavior, leadership, organization, complexity theory, cellular automata, simulation*

### INTRODUCTION

The contemporary organization (work-place) is an ever-changing environment of high diversity stemming both from the management as well as the employees. It is a very complex non-linear behavior system where even a small change in one or two parameters can result in enormous changes in the entire system. It can therefore be regarded as complex adaptive system (CAS) (Anderson, 1999). Gell-Mann (2002) describes complex organizing by distinguishing between events or interactions that occur among individuals at the "fine-grained" level (micro level) and emergent regularities that can be observable at the system level (macro level). CAS allows, basing on local behaviors, generate global changes, which in turn change the local behavior (Burkhart, 1996). Such phenomenon in which the effect of the elements' interaction at the local level is a surprising result (something new or unexpected) at the global level is called emergence and applies particularly to such processes in organizations as leadership (Hazy, 2007), organizational culture (Axelrod, 1997) or susceptibility to changes in the Innovation, Entrepreneurship and Digital Ecosystems

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organization (Brown and Eisenhardt, 1997). Many works appearing in the past decade have shown the usefulness of agent based models (ABM) in the field of modeling various aspects of an organization's management systems as complex adaptive systems (Fioretti, 2013). An example of simple agent models that can be used in the study of processes in organizations are cellular automata (CA).

In this work we are interested in employee behavior in the organization under the effect of company policies and leaders. Our goal is to use CA model to gain insights into the global behavior of the analyzed system based on local interactions within groups of employees and between employees and organizational environment. We study behavior of employees, because many research show, that employees are interested in participating in decision making (Parnell and Crandall, 2001). Employees' participation in decision making in organizations is considered as helpful in achieving goals of both employees and organizations. For an employee, participation can enhance his or her self-realization, self-esteem, satisfaction and sense of fairness (Ornoy, 2010). We use the CA model to simulate employee behavior in an organization in order to analyze how employee behavior evolves and how encouragement rules, punishment rules and leaders influence employee behavior. Employees in the organization are modeled as CA space, and each employee is a cell. Each cell is influenced by its neighbors, and at the same time it influences others. This causes updates in employees behavior and as a result – change in the entire system. In particular, we analyze the impact of the leaders on the behavior of employees. Leadership is understood here as the ability of one or more people to influence the group (Bogdanor, 1993). An example of the analysis of leadership in this perspective is the work of Lichtenstein *et al.* (2006) and DeRue (2011).

The implementation of CA technique to study workers' behavior was proposed in work Jiao *et al.* (2007) and Saravakos and Sirakoulis (2014). Similarly to the article Jiao *et al.* (2007) we define three kinds of employee behavior called positive behavior, neutral (zero) behavior and negative behavior. Positive behavior is an employee's behavior which is encouraged and propitious to the management. Behavior forbidden by the rules or the culture of the organization is called negative, and neutral behavior is neither encouraged nor forbidden. Additionally, in our model, we use the influence of leaders on employee behavior. In the CAS perspective leaders in organization base their action on the interactions among and within organizational ensembles (Marion and Uhl-Bien, 2002). Leaders follow the company policy and encourage employees to positive behavior. The performed simulation experiments was to answer the question how the density of ties between workers and the size of non-formal groups affect employees behavior under three mechanisms: the influence of leaders, company's encouragement policy and company's punishment policy.

## MODEL

The model used in our studies is a two-dimensional CA with periodic boundary conditions. It is represented as a square grid with  $L \times L$  cells. Each  $i$ -th cell ( $i=1,2,\dots,L^2$ ) can be in one of the four states: empty, positive (P), negative (N) or neutral (Z). Non-empty cells (from now on called agents) represent employees and the state of non-empty cell represents the behavior of the employee. Initially a cell is non-empty (i.e. occupied by an agent) with probability  $p$ . The total number of agents  $N$  can therefore be calculated as  $pL^2$ . Value of  $p$  can be treated as an average concentration of agents, but it can also be equated with access to information and communication with other agents (the greater  $p$  – the more contacts between agents).

In this model special kind of agents is also used – leaders (Kowalska-Styczeń, 2012, 2014). Leaders can only be agents with positive behavior. In the beginning  $lN$  agents with positive behavior are chosen (randomly) as leaders ( $l$  is the fraction of leaders in the entire population of agents).

In each iteration agent's behavior can be affected by its neighbors. Neighbors of the given agent are agents that occupy cells surrounding this agent. They represent co-workers (non-formal groups) whose opinion can influence employee's behavior. In each iteration agents simultaneously update their state according to these rules:

- agent changes its state if most of the neighbors are in one of the different state (fig. 1a),
- agent stays in its state if the number of its neighbors in different state is not greater than the number of its neighbors in its current state (fig. 1b),
- if the number of neighbors of the same state as agent's state is smaller than the number of neighbors in other states and the number of neighbors in both other states are the same then the agent randomly changes its state to one of the other states with 0.5 probability (fig. 1c),
- agent always changes its state to P if at least one of its neighbors is a leader (fig. 1d),
- a leader never changes its state (fig. 1e).

Following Jiao *et al.* (2007) two additional parameters were considered:

- $\alpha$  ( $\alpha > 1$ ) – which represents the intensity of company's encouragement policy for positive behavior and
- $\beta$  ( $0 < \beta < 1$ ) – which represents the intensity of company's punishment policy for negative behavior.

The number of neighbors in state P is adjusted by  $\alpha$ , e.g. when  $\alpha = 1.1$  that means that 2 neighbors in state P are accounted as 2.2 neighbors. Analogically, the number of neighbors in state N are adjusted by  $\beta$ , i.e. when  $\beta = 0.9$  that means that 2 neighbors in state N are accounted as 1.8 neighbors (smaller value of  $\beta$  means greater intensity of company's punishment policy for negative behavior).

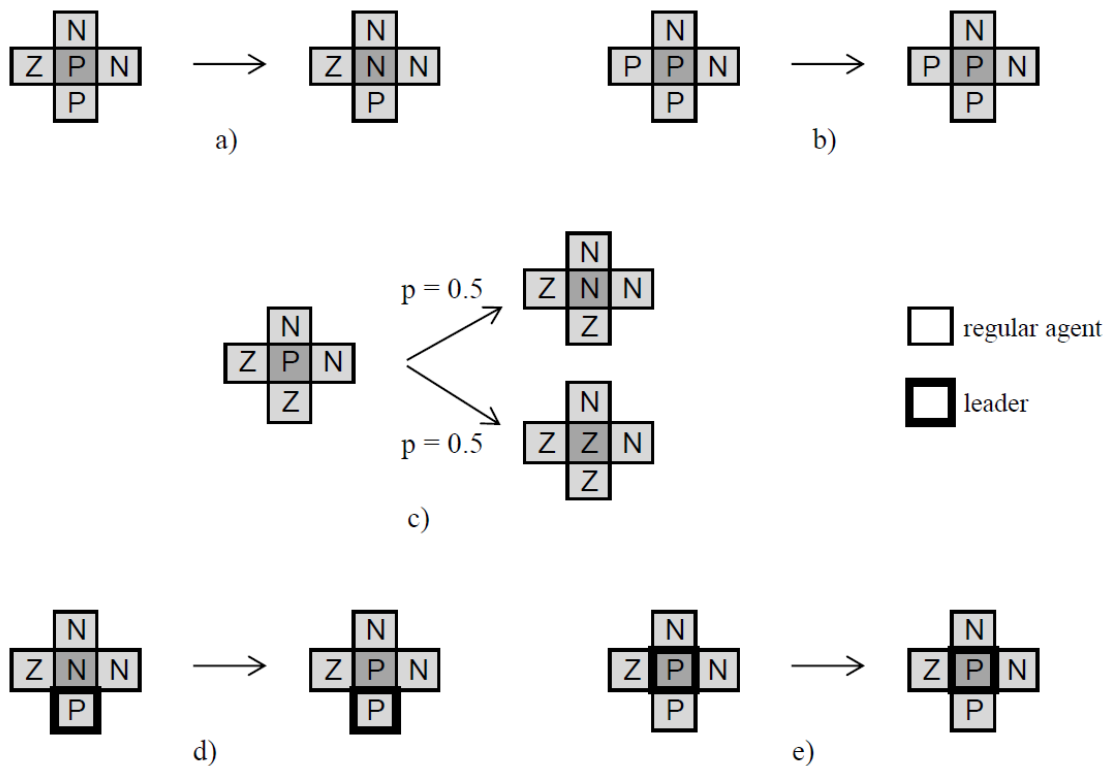


Figure 1. RULES OF TRANSITION IN THE MODEL FOR VON NEUMANN'S NEIGHBOURHOOD OF RADIUS  $R = 1$

## EXPERIMENTS

### Experiment design

In each experiment it was assumed that in the beginning the proportion of each type of agents (positive, negative and neutral) is equal, that is  $N_P : N_N : N_Z = 1:1:1$  (where  $N_X$  means the number of agents with X behavior).

Experiments that have been conducted were designed to investigate the impact of the leaders, the company's encouragement policy and the company's punishment policy on the employees behavior. The parameters affecting the employees behavior, were changed by following independent variables:

- $p$  – population density,

- $r$  – neighborhood size (see below),
- $l$  – fraction of the leaders,
- $\alpha$  – the intensity level of encouragement policy,
- $\beta$  – the intensity level of punishment policy.

Additionally two variants of leaders were considered: with movement ( $lm$ ) and without movement ( $lwm$ ). Leaders with movement randomly change their cell after each iteration (move to randomly chosen empty cell). This rule was added to represent that leadership in complex organizations requires managing networks and interactions through communication with different groups of employees (Marion and Uhl-Bien, 2001).

In the study, two levels of the first two parameters were assumed:

- $p = \{0.4, 0.8\}$ ,
- $r$  – von Neumann's neighborhood of radius  $r = 1$  (4-elements neighborhood) and von Neumann's neighborhood of radius  $r = 2$  (12-elements neighborhood) – (see fig. 2).

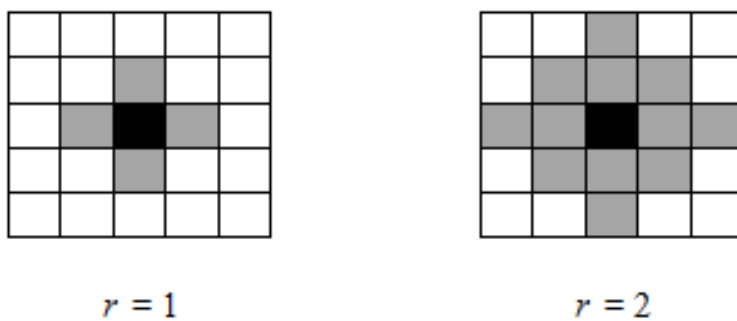


Figure 2. VON NEUMANN'S NEIGHBORHOOD OF RADIUS  $R = 1$  (LEFT PANEL) AND  $R = 2$  (RIGHT PANEL)

The leaders fraction level was changed from 0% to 5% with the step of 0,5% (leaders were chosen from agents with positive behavior). The encouragement policy intensity level and punishment policy intensity level were changed from 1,1 to 1,5 and from 0.9 to 0.5, respectively (with the step of 0,1).

As the dependent variable the average number of agents with P, Z and N behavior at the end of each simulation was adopted. This average was calculated after 1000 simulation runs. Each simulation run lasted 1000 iterations.

#### *Simulation results*

Initially, an analysis of the leaders impact on the employee behavior was studied. Population densities  $p = 0.4$  and  $p = 0.8$  were adopted to see how the leaders work in the network of sparser and denser ties between employees. This density allows leaders to move in the lattice, and at the same time there are many contacts with employees. Simulations have been carried out for the lattice size of  $L=50$ , because, as it was shown in Kowalska-Styczeń (2012), the size of the lattice does not affect the results. Leaders represent the views consistent with company policy, so they reinforce positive behavior. Figure 3 shows the number of employees representing each of the three behavior under consideration at the end of simulation runs (average number for positive behavior, negative behavior and neutral behavior), depending on the percentage of leaders, their ability to move, different population density and different neighborhoods described earlier.

As can be seen in Figure 3, the leaders impact is more effective in the case of a larger network density ( $p = 0.8$ ). In this case smaller value of  $l$  has a bigger impact on accepting policy proposed by the leader (which is consistent with the company's policy) than for  $p = 0.4$ . At the same time, the number of agent with negative and neutral behavior decreases more rapidly.

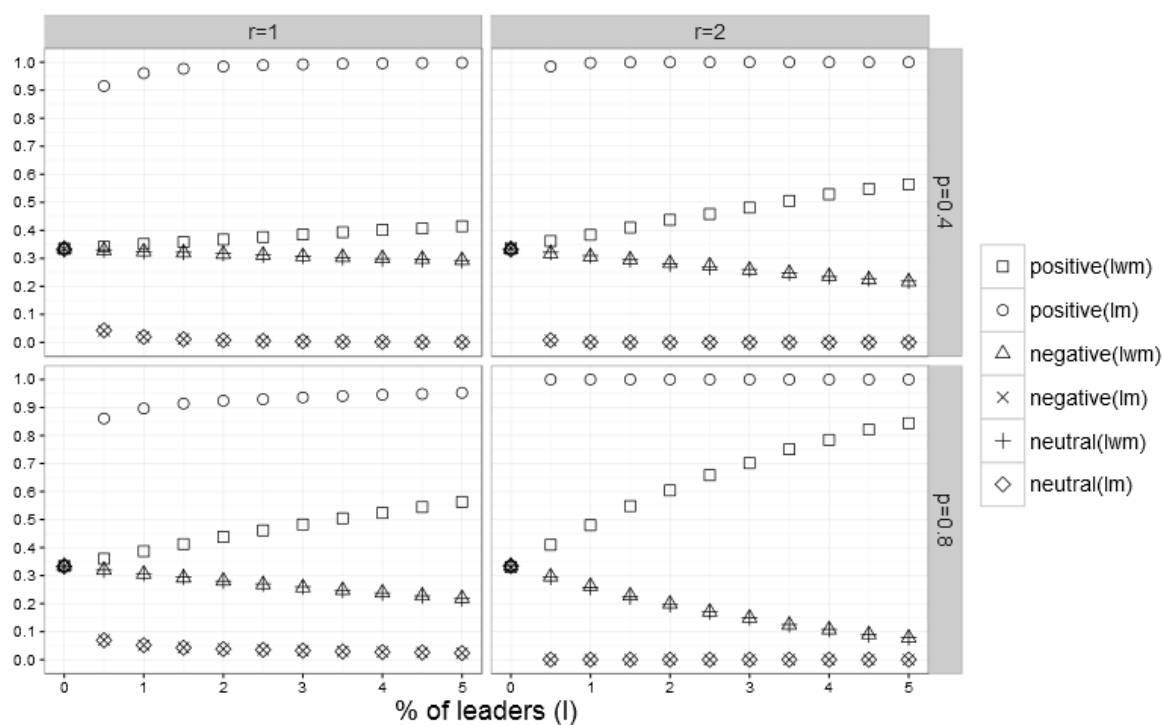


Figure 3. FRACTION OF EMPLOYEES DEPENDING ON THE PERCENTAGE OF LEADERS,  $p$ , NEIGHBORHOOD, AND LEADERS ABILITY TO MOVE

Moreover, leaders efficiency depends on the neighborhood size. The larger number of the employees group ( $r = 2$ ), the greater effectiveness of leaders, that means larger number of employees representing positive behavior and fewer workers representing (N) and (Z). The willingness to accept the leaders

policy is also modified by the leader communication with different groups of employees (modeled by leaders' movement). The movement strongly increases the efficiency of leaders.

The second analysis performed was to examine how the encouragement policy and the punishment policy impacted the employee behavior. Similarly, population densities  $p = 0.4$  and  $p = 0.8$  have been adopted. Simulations have been carried out for the network size  $L = 50$ , for 4-elements ( $r = 1$ ) and 12-elements ( $r = 2$ ) neighborhoods. Figure 4 shows the number of employees preferences, depending on the intensity of company's encouragement policy for positive behavior –  $\alpha$  (alpha). As can be seen in Figure 4, greater  $\alpha$  causes bigger percentage of people with a positive behavior and smaller percentage of people with negative and neutral behavior. The larger network density ( $p = 0.8$ ) and larger neighbourhood size ( $r = 2$ ) are conducive to the propagation of positive behavior among employees, while the number of people with negative and neutral behavior decrease.

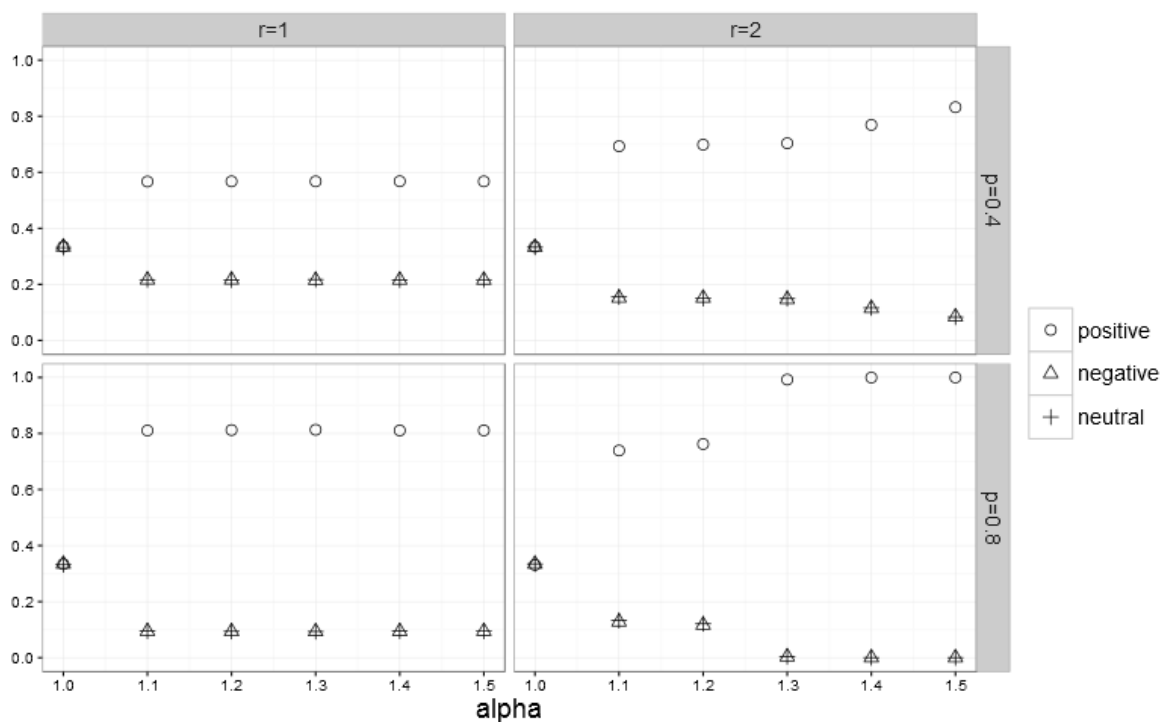


Figure 4. FRACTION OF EMPLOYEES DEPENDING ON  $\alpha$  (ALPHA),  $p$  AND NEIGHBORHOOD

The impact of the company punishment policy on negative employees behavior is illustrated in figure 5. As can be seen, the greater punishment intensity (smaller  $\beta$ ), the bigger percentage of people with a positive and neutral behavior and the smaller percentage of people with negative behavior. Moreover, a punishment policy is more effective for the larger number of informal contacts in employees groups ( $r = 2$ ), the network density is not as important as in the previous simulations.



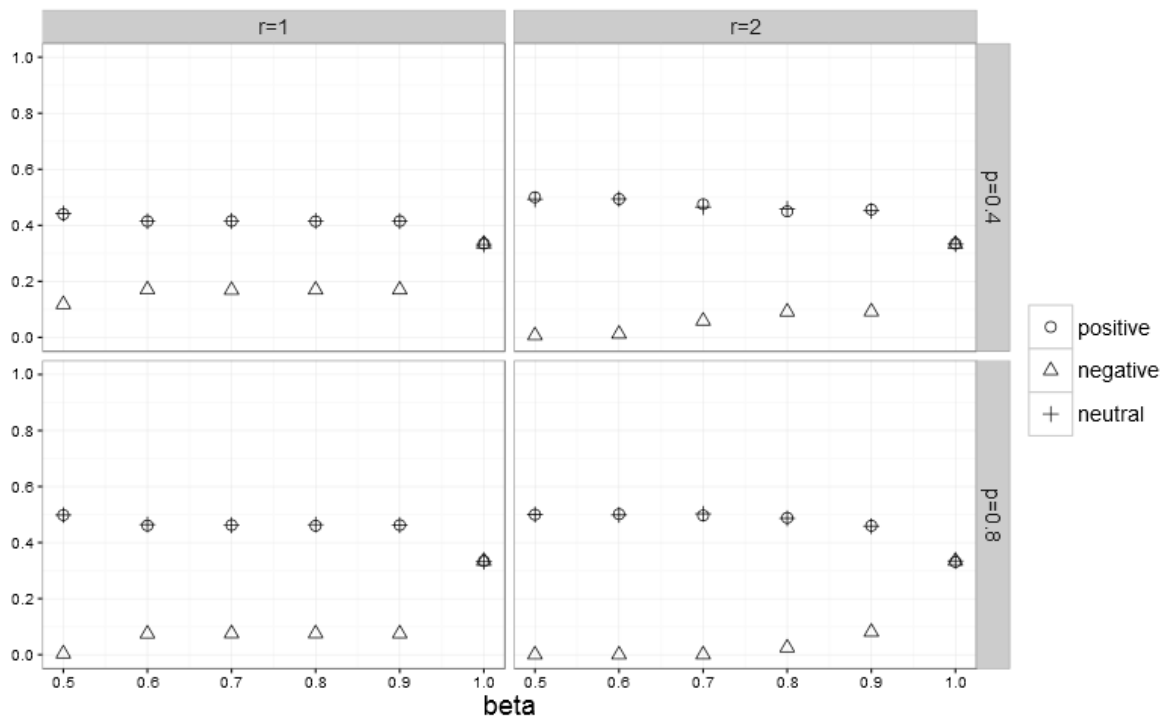


Figure 5. FRACTION OF EMPLOYEES DEPENDING ON  $\beta$  (BETA),  $p$  AND NEIGHBORHOOD

## SUMMARY AND CONCLUSIONS

The purpose of this article was to examine the impact of the leaders and company's encouragement and punishment policy on the employees behavior. Behavior that arises from the interaction of individuals and groups is characterized by complexity, dynamics and non-linearity, and because of that it is difficult for empirical research. Therefore, to examine the dynamics of employee behavior we used computer simulation. Parameters affecting the communications between employees were modeled by the different neighborhood size and by different population density. Fleming *et al.* (2007) has shown that the high level of the network consistency increases the chance of adapting innovation, and a greater number of connections between agents facilitates the exchange of knowledge in organization. Therefore, in our work we conducted research for two network density. For  $p = 0.8$  there are more connections between employees than for  $p = 0.4$ . The obtained results show that high level of the network consistency contributes to greater effectiveness of convincing employees to positive behavior by leaders and this is also true for company's encouragement policy. Additionally, the size of employees' groups, where the above-mentioned processes (the impact of leaders, the encouragement policy and the punishment policy) take place, is very important. In this model, the size of employees' groups was modeled by neighborhood size ( $r = 1$ ,  $r = 2$ ). The diverse neighborhood, modeled also by different network density, reflects the number of informal contacts in groups of employees. Results of the presented simulations generally supports the findings of Fleming *et al.* (2007).

In this work, employees in addition to a neutral and positive behavior (that are compatible with the company policies), represent also negative behavior. Deviant behavior is a recurring problem in workplace. This type of behavior represents the acts that are contrary to the values and norms of the organization (Appelbaum *et al.*, 2007). An appropriate attention to employees behavior is necessary, because this problem brings harmful effects to the organization, economically and socially. According to simulations presented in the previous section, leaders who convince employees to positive behavior in accordance with company policy and encouragement policy to positive behavior have greater impact on increasing the number of employees with positive behavior than punishment policy. Our results are consistent with studies of Abdullah and Marican (2014), who postulate, that negative behavior is a response to un-favorable work environment and that higher presence of control and flexible leadership reduces deviant behavior. Thus, it appears that the company's policy of supporting positive behavior is more effective than the policy of punishing negative behavior.

Our studies indicate a strong influence of the size of groups of employees and the density of their contacts network, particularly in the context of the company's encouragement policy. This may be an indication for the management to pay attention to informal groups in organizations. Since the simulations show that the size of such informal groups significantly influences on the spread of positive behavior, i.e. consistent with company's policy, management should create the atmosphere and conditions for development of such informal groups.

Our research shows that an important role in the dynamics of employees behavior can also play leaders. In our opinion, further research of this process would be interesting, especially in the context of distributed leadership and bottom-up approach to the organization. A leader could also be considered as an informal leader, who could sometimes act as a follower, depending on the situation. Leadership is an important area in which complexity theory can offer a new perspective and approach (Hazy, Silberstang, 2009). It should be emphasized that the complexity does not mean multiple pieces or parts, and their complexity (as in the traditional sense), but the interrelationship between components of an organization and its dynamic interaction (Uhl-Bien *et al.*, 2007). As pointed out by Uhl-Bien, Marion and McKelvey (2007), the concept of leadership as an adaptable complex process draws attention to the social complexity and its emergent properties. Interactions between members of the organization are mostly of an informal nature, and an increasingly important role is attributed to such relationships, since it is clear from the work of Ibarra (1993) that they are the main sources of influence in organizations and explain many organizational processes such as learning organization, innovation and adaptive processes. As the works of Johannessen and Stacey (2005), Marion and Uhl-Bien (2001) and McKelvey (2008) show, the complexity and dynamic nature of leadership requires the

development of models which more accurately reflect its complex nature. One such tool is simulation, and its popularity as a methodological approach is increasing in the study of organizations (Davis et al., 2007). Moreover, as emphasized by Miller and Page (2007) simulation is naturally adapted to solve problems, which are characterized by dynamics, heterogeneity and the occurrence of interacting components. This technique can also be used as an in-depth look at the complex relationships between elements, especially when there is lack of empirical data (Zott, 2003), and can also reveal the results of the interaction of many elements, especially when they change over time (Rudolph and Repenning, 2002).

The presented model is a simplified version of reality, but despite that it shows interesting emergent behavior. It seems that such simulation studies are a valuable addition to empirical research, which can be difficult to perform in real organizations. In further studies, we intend to focus on distributed leadership and study this phenomenon in the context of organizational changes. An interesting addition to the model may be considering the theory of strong and weak ties (Granovetter 1973, Granovetter 1983) and their impact on employee behavior.

## ACKNOWLEDGMENTS

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## BARLEY: A SUSTAINABLE CROP FOR THE MEDITERRANEAN REGIONS

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### ABSTRACT

This study aims to provide the analysis of the different benefits associated to barley (*Hordeum Vulgare* L.), a widespread grain in the European territories, to point out its relevance and to provide the analysis of the environmental impacts associated to its production, in order to demonstrate the sustainability of this cereal for the Mediterranean regions. Barley is a self-sustainable crop, thanks to its nutritional value and to its adaptability to Mediterranean pedo-climatic conditions. In order to contribute in increasing case studies on this issue, an analysis of barley cultivation, based on the analysis of organic production regime of a farm located in Apulia, a Southern region of Italy, is proposed, using a Life Cycle Assessment (LCA) methodology. Although the study is ongoing, the first results put on evidence that organic barley production system is more sustainable in the Mediterranean regions with respect to other areas.

**Keywords:** *Barley, Sustainability, Environment, Mediterranean Regions, Life Cycle Assessment (LCA).*

### INTRODUCTION

Nowadays, in order to reach a socio-economic efficiency, the European context is oriented towards the achievement of more sustainable and ethic production, in the logic of doing more and better with less. This tendency is imposed by several reasons, such as food safety and security, customization of food styles, environmental and socio-economic changes, etc. Consumers tend to pay an ever increasing attention towards the relationship between nutrition and health, while the challenge of governments, in the perspective of Europe 2020, is to quickly assure a more sustainable agriculture. The change in food preferences and the environmental awareness highlight the needs to improve a better evaluation of impacts, risks, and opportunity for food production and consumption, through a life cycle approach.

The scope of this study is to highlight the diverse advantages associated to organic barley (*Hordeum vulgare* L.) and its importance for the Mediterranean regions, and to provide the analysis of the

environmental impacts associated to its production, in order to prove that the production of organic barley results more sustainable in the Mediterranean regions with respect to other areas. In reality among grain, barley deserves a particular attention, due to its nutritional value and to its adaptability to Mediterranean pedo-climatic conditions, that make it a sustainable crop (Marconi and Bruno, 2012; Moresi and Valentini, 2010).

## BARLEY: A WIDESPREAD CROP IN THE MEDITERRANEAN REGIONS

Barley is the fourth most important cereal in the world, following wheat, corn, and rice (Lamonaca and Tricase, 2015; Sullivan *et al.*, 2013; Baik and Ullrich, 2008). Currently, world production of barley is approximately 1.4 Gt. For the last 55 years, the leading producers of barley include the European Union (EU-28) with a production of 587 Mt, the Russian Federation, that yearly produces about 165 Mt of barley grain, following Australia and Canada (Figure 1) (USDA FAS PSD, 2016). Data highlight the prominent role of the European Union as major supplier for this crop and the broad diffusion of this cereal all through the European territories. Actually, around half of the European cultivated area is used for cereals production, where barley occupies the 21% of the cereal crop area of the EU-28 (Tricase *et al.*, 2016).

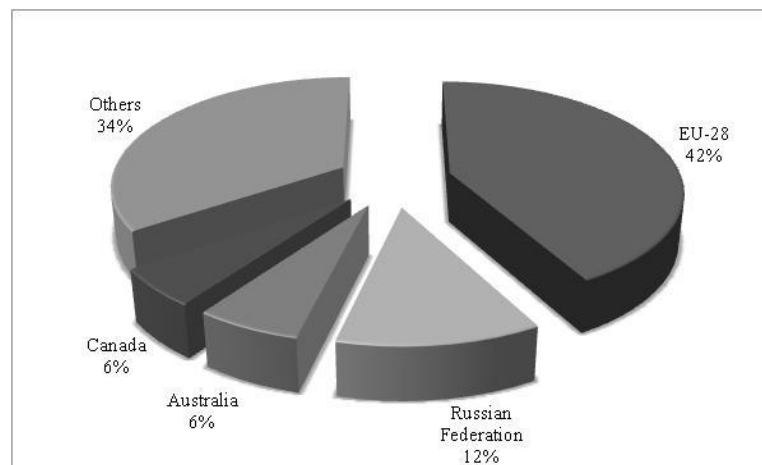


Figure 1. Major producers of barley at world level. Source: Authors' elaboration on USDA FAS PSD, 2016.

During the last decades, the major part of the production has been concentrated in Germany (19.4%), France (19.1%), and Spain (11.4%), according to the most recent data for each country of the EU-28 (FAOSTAT, 2016).

Worldwide and for thousands of years, barley has always been used as a source for human diet (Sullivan *et al.*, 2013). Actually, approximately the 80% of the current international consumption of barley, intended to human nutrition, is divided between barley grain as it is and barley processed into grits, flakes, flour, and so on (FAOSTAT, 2016), as reported in Figure 2.

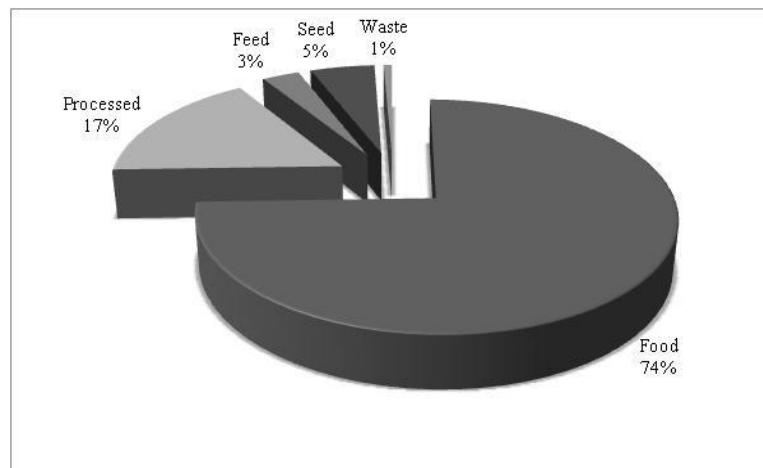


Figure 2. Current intended uses of barley world production. Source: Authors' elaboration on FAOSTAT, 2016.

The current appreciation of barley as a food source is due to its potential health benefits: barley kernels naturally contain many bioactive compounds (Table 1), especially a high percentage of  $\beta$ -glucan, a soluble fiber (Marconi, 2012; Sullivan *et al.*, 2013).

Compound	Location	Activity
Beta-Glucan	endosperm/aleuronic layer	cholesterol-lowering/hypoglycemic
Tocopherols	germ/aleuronic layer	antioxidant/cholesterol-lowering
Tocotrienols	germ/aleuronic layer	antioxidant/cholesterol-lowering
Folate	aleuronic layer/germ	reduction of neural tube's defects/reduction of cardiovascular conditions and of colon cancer
Phytosterols	germ/aleuronic layer	cholesterol-lowering
Polyphenols	pericarp	antioxidant
Phytates	pericarp	reduction of colon cancer
Policosanols	pericarp	cholesterol-lowering
Pentosans	pericarp	cholesterol-lowering
Arabinoxylans	pericarp	cholesterol-lowering
Lignans	pericarp/aleuronic layer	reduction of cardiovascular conditions/reduction of malignancies
Alkylresorcinols	pericarp	antioxidant

Table 1. Compounds with biological activity in barley caryopsis. Source: Authors' elaboration on Marconi, 2012.

According to the Food and Drug Administration (FDA), a daily consumption of barley  $\beta$ -glucan, equal to 3%, could help to decrease the risk of chronic heart disease by lowering blood cholesterol (FDA, 2005). Several academic researches on this issue confirm the FDA's statement. Actually, nutritional studies into barley  $\beta$ -glucan have shown a link between its regular consumption and a number of health benefits, including a decrease in the risk of chronic heart disease by lowering blood cholesterol (Önning, 2007) and an increased insulin response in diabetics (Poutanen *et al.*, 2007; Wood *et al.*, 1994).

For this reason, barley is a crop of niche for the functional food market, in response to increased consumer awareness and demand (Lamonaca and Tricase, 2015; Sullivan *et al.*, 2013). Moreover, barley is a self-sustainable crop. Actually from an environmental perspective, due to its reduced water necessities and its short life cycle, it can be cultivated also into marginal and unfavorable areas, where constant yields could be obtained in any case (Tricase *et al.*, 2016; Lamonaca and Tricase, 2015; Francia *et al.*, 2011). On the other hand, from an economic point of view, barley is a low input agricultural raw material and, as a result, a crop techniques enhancement could be a further occasion to specialize barley for human nutrition and, therefore, to increase farmers' profitability (Tricase *et al.*, 2016; Lamonaca and Tricase, 2015; Marinaccio *et al.*, 2015).

## MATERIALS AND METHODS

Life Cycle Assessment (LCA) methodology is a technique that aims to quantify the potential environmental impacts associated to a product system's inputs and outputs during its life cycle, through the implementation of the following phases: Goal and Scope definition; Life Cycle Inventory (LCI); Life Cycle Impact Assessment (LCIA); and Life Cycle Interpretation (ISO, 2006a; ISO, 2006b). LCA methodology has been extensively used for evaluating the environmental impacts of food production systems, and specifically organic agri-food productions, representing one of the most effective tools to design a more sustainable production systems (Tricase *et al.*, 2016; Fedele *et al.* 2014; Tidåker *et al.* 2014; Niero *et al.* 2015; Van der Werf *et al.* 2014). LCA studies in agri-food production points out that pedo-climatic conditions of a specific area could have significant influences on the results of the analysis. This is particularly true for the organic production. Actually, there is a strong dependence among local dynamics, regional geo-climatic and site specific factors and the cultivations' environmental performance. Therefore, specific farm site characteristics, such as climate, soil properties and crop management, are all important features that may have a important impact on the product (Tricase *et al.*, 2016; Fedele *et al.* 2014). This methodology has been applied to several empirical studies related to the conventional barley production, but few are those related to the organic barley cultivation (Tricase *et al.*, 2016; Niero *et al.* 2015a; Fedele *et al.* 2014).

### *Goal and scope definition*

For the correct development of the LCA analysis, an explicit statement of the study's goal and scope was carried out. In particular, the goal of this study is to apply the LCA methodology for identifying and analyzing the main environmental impacts associated to the cultivation of organic barley grain in Apulia, a Southern region of Italy, which is a large producer of this crop. Moreover, it is well acknowledged that agricultural production, although essential for human health and nutrition, is



responsible of great environmental impacts (Tricase *et al.*, 2016; Niero *et al.*, 2015a; Van der Werf *et al.*, 2014; Hörtenhuber *et al.*, 2014). A way to support more sustainable agricultural practices and to attempt to reduce environmental impacts is to implement an organic production regime (Tricase *et al.*, 2016; Niero *et al.*, 2015a; Niero *et al.*, 2015b; Fedele *et al.*, 2014). The analysis of the existing literature on this issue highlights a lack of empirical studies on the environmental impacts related to organic barley production (Tricase *et al.*, 2016; Fedele *et al.*, 2014; Niero *et al.*, 2015a; Niero *et al.*, 2015b). For this reason, such study could contribute to enriching the international knowledge on organic grain production by providing reliable information on inventoried data and obtained results.

For this case study, it was essential to take into account the annual production values (expressed as kg/ha\*y), registered by the involved farm for a time frame of three years (since 2012 until 2014), in order to calculate the arithmetic average production. Meetings with farm's manager and agronomist took place in May 2014, when the last year of full production was in progress. The study started in June 2014, after the harvesting activities for barley.

According to the ISO 14040:2006 and 14044:2006, it is necessary to choose a functional unit (FU), which is theoretically defined as a measure of a system's performance, while in practice it is an equivalent amount of a product, service or process function (Krozer and Vis, 1998). In the present study, a land-based functional unit were adopted and it represents the land management function of agriculture (Hayashi, 2013; Cerutti *et al.*, 2013; Nemecek *et al.*, 2011). Therefore, the environmental impacts were related to the management of one hectare of land, involved in barley cultivation. This FU is not commonly used in LCA, because land use does not provide a productive function, but it can provide remarkable results (Cerutti *et al.*, 2013).

The production phases, considered in this study, are derived from the activities of a specific farms located in Alta Murgia Park, in the Bari Province (Italy). Figure 3 shows the defined system boundary, which refer to an average year among those of full production and involve main inputs and outputs of the process, such as raw materials and related transportation from the manufacturing factories to the field, co-products, energy demand, etc..

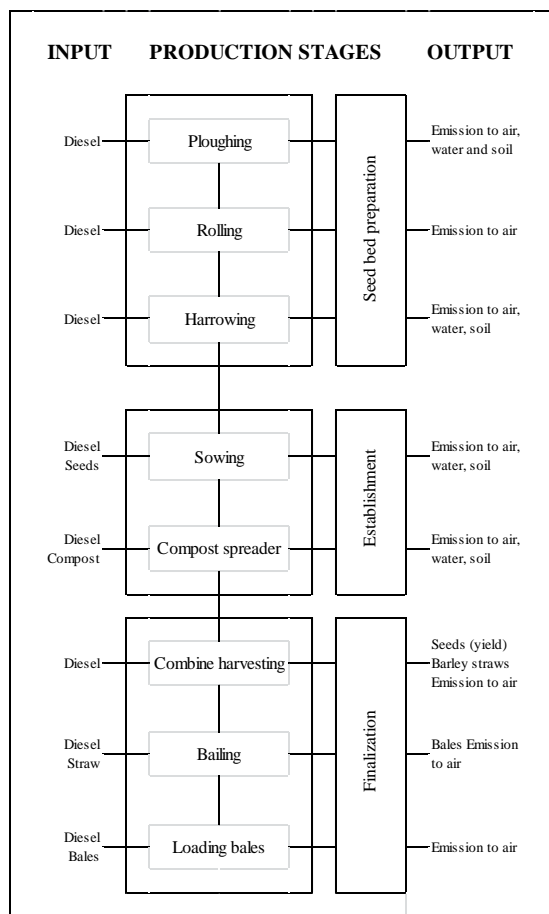


Figure 3. Main resources, materials and operations included within the system under study.

The three phases, included in the system boundary (seedbed preparation, establishment and finalization), are field related processes, generally considered in cradle to farm gate for the implementation of the LCA studies on barley (Tricase *et al.*, 2016; Niero *et al.*, 2015a; Fedele *et al.*, 2014). The first step of seedbed preparation involves the processes of ploughing, rolling and harrowing. The following step of establishment includes the phases of seeding and post-seeding fertilization. The last field related process consists of harvesting, baling and loading of bales. All these steps are the most impacting phases for barley production, in terms of air, water and soil emissions from the field (Niero *et al.*, 2015a; Fedele *et al.*, 2014).

#### Life Cycle Inventory (LCI) analysis

LCI analysis quantifies the input flows associated to the utilization of resources and materials, the consumption of energy, and the transports, within an entire life cycle of a product. Because of the needs to assess and reproduce several activities involved in a product's life cycle, and to collect and compute all the data related to the environmental impacts, LCI is considered the most important step among LCA phases (Lo Giudice *et al.*, 2016; Zhang *et al.*, 2015). Therefore for this phase, input and

output flows were analyzed starting from data collection, performed by using Ecoinvent v.2.2 (Ecoinvent, 2010) within SimaPro v.7.3.3 (SimaPro, 2006).

Data in terms of input material typologies and amounts used, based upon information provided by the farms, were essentially primary data, because this study is based on the evaluation of a particularly specialized system. According to Ingrao *et al.* (2015), Siracusa *et al.* (2014), Frischknecht and Rebitzer (2005), also secondary data, collected from Ecoinvent v.2.2, were used, based on the scientific importance and reliability of such international data source. In particular, the processes used for representing resources and raw materials, such as organic barley seeds and compost, the energy consumed during each agricultural activity, as well as the use of transport means, are completely modeled using the Ecoinvent background data. Therefore, agricultural machinery and other used equipment were involved using Ecoinvent v.2.2 models, taking into account their life cycles, from production to final disposal at the end-of-life. Table 2 lists all the data used for the evaluation.

All input flows were allocated to the different phases of organic barley grain production using appropriately defined procedures and tools. Meeting with the farm's manager during the production site visit was made and check lists were implemented and used for recording data and information. This phase was performed also through in-depth interviews with farm's agronomist in order to assure common understanding of the questions asked.

Input flow	Physic amount	Measur e unit	Comment upon the use of the related module available in Ecoinvent v.2.2 (Ecoinvent, 2011)	Remarks
Resources				
Occupation, arable, non-irrigated	2.083	ha*y		
Transformation, from arable, non-irrigated	2.083	ha		
Transformation, to arable, non-irrigated	2.083	ha		
Energy, gross calorific value, in biomass	113,325.000	MJ		
Carbon dioxide (CO <sub>2</sub> ), in air	9.750	t		
Raw materials and fossil fuels				
Organic barley seeds	416.600	kg	The seed produced at the farm is transported to the processing centre, treated (pre-cleaning, cleaning, eventually drying, and bag filling), stored and afterwards transported to the regional storage center. No data on wastewater production were available. The reference is to 1 kg of barley seed (fresh weight), with a maximum water content of 15%.	

Compost, at plant	14.730	t	Energy demand for operating a compost plant was included as well as process emissions, infrastructure of the compost plant and transports related to the collection of the biogenic waste. Values refer to compost with a water content of 50% by weight. Compost inventory refers 1 kg fresh weight of compost.	
Main processes and phases				
Ploughing	2.083	ha	The inventory takes into account the diesel fuel consumption and the amount of agricultural machinery and of the shed, which has to be attributed to the single activity. Also taken into consideration is the amount of emissions to the air from combustion and the emission to the soil from tyre abrasion during the work process. The following activities were considered part of the work process: preliminary work at the farm, like attaching the adequate machine to the tractor; transfer to field (with an assumed distance of 1 km); field work (for a parcel of land of 1 ha surface); transfer to farm and concluding work, like uncoupling the machine. The overlapping during the field work is considered. Not included are dust other than from combustion and noise.	Four-furrow plough.
Rolling	2.083	ha		Rolling, working width 3m.
Harrowing	2.083	ha		Rotary harrow, working width 3m.
Sowing	2.083	ha		Seeder, working width 3m, seed not included.
Combine harvesting	2.083	ha		Combine harvesting, working width 4.5m, grain production and straw treatment not included.
Baling	11.580	p		Round baler for round bales of 1.4m <sup>3</sup> , silage with wrapping foil, 700kg. Time need for baling and wrapping, without loading and transport. Wrapping foil (PE-film) included, fodder production and cutting not included.
Loading bales	11.580	p		Loading of straw bales with bale gripper onto trailer. Without transport to farm and discharging, straw production not included.

Compost spreader	14.730	t		
Transports				
Transport, lorry 7.5-16t, euro 4	270.790	t*km	Included processes are operation of vehicle; production, maintenance and disposal of vehicles; construction and maintenance and disposal of road. Inventory refers to the entire transport life cycle.	Organic barley seeds transport
Transport, lorry 3.5-7.5t, euro 5	1473.000	t*km		Compost transport
Emissions to air				
Ammonia (NH3)	459.000	g		
Dinitrogen monoxide (N2O)	1.280	kg		

Table 2. *Main input inventory-data related to the production of 1 ha of organic barley grain and 1.083 ha of organic barley straw bales. Source: Personal elaboration of LCIA results from Impact 2002+*

In order to obtain a well-fitting environmental impacts allocation across the main processes for the production of one ha of organic barley, in accordance with the ISO standards, an allocation between organic barley grain and straw was applied, using a criterion based on the economic value of product and co-product. Actually, 76% of the environmental impact of the cultivation process was attributed to grain, while the remaining 24% was destined to straw. As a matter of fact, straw could be used as positive contributions to soil organic matter improvement and, thus, as co-products for more sustainable agricultural production, but it also could be sold for animal feed industry.

## RESULTS AND DISCUSSION

### *Life Cycle Impact Assessment (LCIA)*

The purpose of the LCIA is to understand the potential environmental impacts of the system, given the LCI results (Niero *et al.*, 2015a).

In order to provide a straightforward identification of the higher impacting phases, Figure 4 shows the impacts, for each of the process related to the organic barley cultivation, expressed as weighing points and classified by damage categories. It is clear that the greater environmental impacts are related to the production and usage of raw material (organic barley seeds and compost), as well as to their transportation.

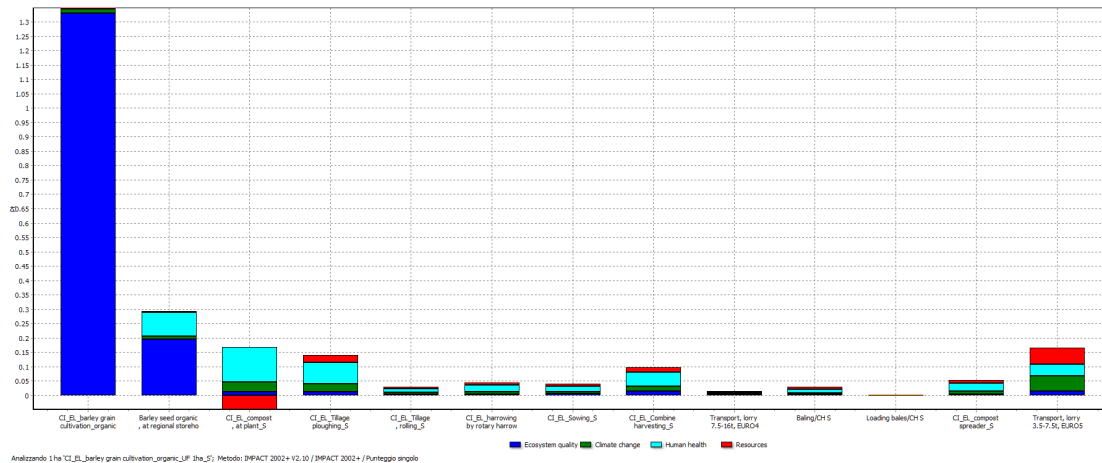


Figure 4. Organic barley cultivation phases and related caused-damages (weighing points). Source: Personal elaboration of LCIA results from Impact 2002+

The total impacts, associated with input raw materials (0.412 pt) and transportation (0.182 pt), was due to consumption of fossil fuels and to emissions of GHGs coming from the production, use and maintenance activities and, also, from the end-of-life management of used equipment and other materials. With regard to the compost contribution, a negative value is documented: therefore, an avoided damage is found and attributed to avoided natural resource exploitation.

In addition, the total damage is divided as follows among the damage categories considered by Impact 2002+:

- 1) 67.59% Ecosystem Quality;
- 2) 19.72% Human Health;
- 3) 8.25% Climate Change;
- 4) 4.44% Resources.

In this regard, in Table 3, each of these categories is associated with both weighing point and damage assessment value, computed by using conversion factors, specifically assigned in Impact 2002+.

Damage category	Weighing (pt)	Damage assessment	Unit
Ecosystem quality	1.606	22005.492	PDF*m2*yr
Human health	0.469	0.003	DALY
Climate change	0.196	1940.891	kg CO2 eq
Resources	0.106	16048.184	MJ primary

Table 3. Damages assessment and weighing e Impact 2002+. DALY (Disability-Adjusted Life Year): a measure of the overall severity of a disease, expressed as the number of years lost due to illness, disability or premature death. PDF (Potential Damage Fraction): the fraction of species that have a high probability of not surviving in the affected area due to unfavorable living conditions. Source: Personal elaboration of LCIA results from Impact 2002+

This phase shows a total damage for organic barley cultivation equal to 1.349 points (pt), principally due to the organic barley seeds contribution. Other influences came from production and usage of compost and, additionally, from their transportation.

Impact category	Weighing (pt)	Characterization	Unit
Land occupation	1.381	18,916.342	PDF*m <sup>2</sup> *yr
Global warming	0.196	1,940.891	kg CO <sub>2</sub> eq
Respiratory inorganics	0.400	262.775	PDF*m <sup>2</sup> *yr
Terrestrial acid/nutri	0.019	2,813.303	PDF*m <sup>2</sup> *yr
Non-carcinogens	0.064	13.072	PDF*m <sup>2</sup> *yr
Terrestrial ecotoxicity	0.205	0.003	DALY
Aquatic ecotoxicity	0.001	0.000	DALY
Mineral extraction	0.000	25.751	MJ primary
Non-renewable energy	0.105	16,022.433	MJ primary
Respiratory organics	3.732E-04	2.647E-06	DALY
Ozone layer depletion	2.234E-05	1.584E-07	DALY
Ionizing radiation	0.001	5.577E-06	DALY
Carcinogens	0.004	2.540E-05	DALY

Table 4. *Characterization and weighing e Impact 2002+. Source: Personal elaboration of LCIA results from Impact 2002+*

As far as the impact categories are concerned, the most significant were listed in Table 4, indicating for each of them the weighing points and characterization values.

#### *Life Cycle Impact interpretation*

In order to assess the results of both the inventory analysis and impact assessment of the product system, the last phase of the LCA, interpretation, draws conclusions and recommendations from all of the foregoing results in accordance with the goal and scope of the study (Ingrao *et al.*, 2015; Niero *et al.*, 2015; De Benedetto and Klemeš, 2009).

Regarding the inventory analysis, organic barley cultivation is a great inventory process, due to the huge number of data and information needed for its implementation. Likewise, the LCIA showed that most of the environmental impacts are due to raw materials and transportation. Lesser impacts are associated to the manufacturing processes for barley straw (e.g. bailing of straw and loading of bales). The “Ecosystem Quality” is the most affected damage category, while the most impactful categories are Land Occupation (LO), Global Warming (GW) and Respiratory Inorganics (RI).

Comparing these results with those of Niero *et al.* (2015a, 2015b), which present LCA results for organic barley produced in Northern European regions, it is clear that it is lesser impacting the cultivation of organic barley in Mediterranean regions. These findings confirm that the environmental assessment of agricultural systems are strongly influenced by the correlation between the environmental performance of cultivations and the specific regional pedo-climatic factors (Tricase *et al.*, 2016; Fedele *et al.*, 2014). Indeed, site-specific data are necessary to describe operations in the field (e.g., differences in fertilizer use generally depend on the location, and above all on soil conditions) (Tricase *et al.*, 2016; Niero *et al.*, 2015b; Fedele *et al.*, 2014).

## CONCLUSIONS

Among grain, barley deserves a particular attention, due to its nutritional value and to its adaptability to Mediterranean pedo-climatic conditions. These peculiarities make it a sustainable crop from different perspectives. Through the analysis of the diverse advantages associated to barley, this study has highlighted the importance of this crop for the Mediterranean regions, where barley is broad spread. The valuable qualitative and nutritional features of barley, that make it a crop of niche for the functional food market, and its high self-sustainability, emerged by the analysis, are the starting point to extend the system boundaries of the LCA analysis to the production of an organic barley-based food products, in order to estimate not only the environmental, but also the socio-economic impacts associated to the entire organic barley supply chain. Although this analysis is ongoing, first results, compared with those of the existing literature, put on evidence that the processes associated to organic barley production system in a Mediterranean region are more sustainable than the same agricultural practices applied in Northern Europe.

In order to take advantage from barley features of sustainability and healthiness, farms and processing firms could to invest more effort into improvement of intended land to its cultivation and new healthy product development. Better understanding of the relationships between these two characteristics is essential and will set the future trends in barley utilization in the Mediterranean areas.

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## A METHODOLOGY FOR MEASURING THE EFFICIENCY OF THE DIFFUSION OF INNOVATION IN THE SUPPLY CHAIN

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### ABSTRACT

This is a conceptual paper, based on literature review. The purpose of this theoretical study is to propose a methodology for measuring the efficiency of the diffusion of innovation in the supply chain. Based on the analysis of existing literature, a new original methodology for measuring the efficiency of the diffusion of innovation in the supply chain – including a measurement matrix and a synthetic indicator – has been developed. The contribution of this paper consists in providing a framework for the development of indicators that can be used to measure the efficiency of the diffusion of innovation in specific industries and companies. Therefore, this is a conceptual paper and research based on the proposed methodology has not been done yet; neither has the usefulness of the proposed measures been demonstrated in practice. However, it is hoped that the paper will stimulate a scientific debate on two questions: firstly, whether the availability of a common methodology may ensure comparability of data within an industry, as well as between industries, taking into account their distinguishing characteristics; and, secondly, on whether the above data will prove useful in the development of a set of best practices for the diffusion of innovation in the supply chain. The proposed model needs to be applied in practice, as only this can test its usefulness.

**Keywords:** *innovation diffusion, supply chain, methodology, efficiency of innovation diffusion*

### INTRODUCTION

The overall improvement in the competitive position of an entire supply chain depends crucially on the diffusion of innovation (Teece, 1980). Despite this, as CH. Gan, M. Clemens, T. Hui Kao and V. Xin, (Gan *et al.*, 2007) have pointed out, little has been written on the diffusion of innovation in the supply chain, while research on the diffusion of innovation in logistics has largely focused on the diffusion of specific technologies. More in-depth research on innovation diffusion in logistics is needed, including the diffusion of innovative processes and services (Grawe, 2009). Several recent publications on innovation in the supply chain notwithstanding, no methodology for the measurement of the efficiency of the diffusion of innovation in the supply chain has been developed.

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This is a conceptual paper, based on literature review; its purpose is to propose a methodology for measuring the efficiency of the diffusion of innovation in the supply chain. Based on the analysis of existing literature, a new original methodology for measuring the efficiency of the diffusion of innovation in the supply chain – including a measurement matrix and a synthetic indicator - has been developed. The contribution of this paper consists in providing a framework for the construction of indicators that can be used to measure the efficiency of the diffusion of innovation in specific industries and companies.

According to the interpretation adopted by the Oslo Manual, diffusion is the way in which innovation is propagated from the first implementation through market and non-market channels, to various consumers, countries, regions, industries, markets and companies (Oslo Manual, 2005). Without diffusion, innovation could have no impact on the economy. Diffusion is also an indicator of the acceptance or rejection of the implemented innovation by the broadly understood market.

The diffusion of innovation can be discussed on the following planes:

the proliferation of ideas within a unit (a unit can be either a company or an individual consumer),  
the proliferation of innovation between units in a system or systems,  
international (global) diffusion (Wiśniewska, 2004).

The present paper is concerned with the diffusion of innovation among companies in a supply chain (therefore, the diffusion of innovation among units belonging to a single system).

The diffusion of innovation in a supply chain is understood as the process through which innovation spreads in the supply chain of one company, the leader of the supply chain (Laskowska-Rutkowska, 2013). It may be assumed that the process of innovation and decision-making occurs also in the supply chain, and that it consists of the following stages: knowledge, persuasion, decision, implementation and review. This also means that the diffusion of innovation in the supply chain can be an intentional process, and can be managed (Rogers, 2003).

The process of innovation diffusion is managed by the supply chain leader and has a deliberate character; as such, it is expected to produce certain predetermined outcomes. Therefore, the problem of defining measures of the efficiency of the diffusion of innovation in the supply chain needs to be solved. Since these issues have not been addressed in the logistics and supply chain literature, contributions to the development of methods of measuring the efficiency of supply chains will be analysed instead. Based on this analysis, a methodology for measuring the efficiency of the diffusion of innovation in the supply chain will be proposed.

## EFFICIENCY AND EFFICIENCY INDICATORS

Efficiency is defined as a “positive outcome, effectiveness, efficacy, productivity” (Słownik Języka Polskiego, 1982) and can refer to “the best outcomes of production, distribution, sales and promotion.” Efficiency can also mean “the evaluation of outcomes with respect to the purpose and utility of action (Blaik, 2001).”

Economic efficiency is defined as the outcome of activities undertaken, and is characterized by the relation between the results obtained and the outlay (expenditure); it can be expressed as the ratio:

$$W = E : N$$

where:

W - efficiency

E – the effect of the company's operations

N – the expenditure associated with the company's operations

Two important aspects of efficiency are distinguished in the systemic formula expressing the efficiency of logistics:

- the market aspect, which captures the optimal value for the client, and
- the economic aspect, which expresses the development of an optimal structure of operations and costs in the process of value creation (Blaik, 2001).

For the sake of the present study, efficiency will be understood in the sense of “a positive outcome, effectiveness”, rather than a ratio of outcomes to expenditure.

In order to determine whether the process of diffusion has been completed successfully, appropriate *measures* are needed. To measure performance, indicators are used. Indicators are numbers that tell us unequivocally whether certain key criteria have been met (Suerle and Wagner, 2002). Indicators can be absolute (eg. net income, employment) or relative ratios (Suerle and Wagner, 2002).

It is difficult to measure the outcomes of diffusion directly, since there are no uniform measures that could be applied to processes of an arbitrary type. International methodological standards include the following measures of the outcomes of innovation: the share of new products in sales, the share in sales of products in the launch phase, the effects of the efforts to promote innovation, and the impact of innovation on the efficient use of factors of production (Wiśniewska, 2004). These indicators cannot be used to evaluate the impact of innovation on the supply chain. Indicators measuring the impact of innovation on the general operation of an enterprise are also used.

These include, among others: sales, profits, expansion to new markets (Wiśniewska, 2004) and positive change in the effective use of production factors: labour, raw materials, energy, fixed assets (Moszczyński, 1994).

Increase in sales or profits is too general a notion to serve as an adequate measure of the efficiency of the diffusion of innovation in the supply chain. Indicators of the efficiency of the diffusion of innovation in the supply chain should be tailored to the specific nature of the supply chain, and should enable the measurement of positive changes in the supply chain. Therefore, in seeking to develop a methodology for measuring the efficiency of the diffusion of innovation in the supply chain, publications on the measurement of the efficiency of supply chains should be consulted.

In the past, efficiency indicators were based on financial data, since such data is readily available. Recently, non-financial indicators have been gaining in importance (Kaplan and Cooper, 2000) (Maskell, 1991). Quality and time are the two most important categories of non-financial indicators. Those who advocate the use of non-financial indicators believe that they are particularly suited to measuring efficiency at the operational level, where the level of management is closer to physical action, and when the market becomes increasingly dynamic, requiring aggressive competition between companies and their supply chains (Nani et al., 1990). In the case of supply chains, non-financial measures can also be used at higher levels of supply chain management, eg. on the process level (for example, the indicator reflecting the speed with which a supply chain reacts to changes in demand).

Furthermore, non-financial measures are the right solution for the supply chain, since clients – as well as integration and coordination of organizational units – are the main focus of attention for the supply chain. Naturally, this does mean that financial measures should not be used.

It is essential to select the right performance indicators, those that enable the measurement of those factors which play a key role with respect to the issues under study (Enkel et al., 2007). Supply chain efficiency measurement requires comprehensive indicators, reflecting the performance of entire supply chains, rather than their individual elements.

## **METHODS FOR MEASURING THE EFFICIENCY OF SUPPLY CHAINS**

Dimensions of efficiency, such as quality, costs and time, are commonly employed in studying supply chains. This is entirely natural, as every supply chain is a megaprocess. Processes that convert “input resources” into “output resources” and meet client expectations can be described by the following three parameters: quality, reaction time and costs (Kaplan and Cooper, 2000).

Authors of the A.T. Kearney report entitled “Insight to Impact” distinguished traditional and “new” efficiency categories. They listed the following traditional categories of efficiency: quality, time and operating costs. To this list they added new supply chain efficiency categories, the result of interactions between the traditional categories. These include: responsiveness, leanness and agility, that is, the speed with which the system, supported by the intelligent use of information, is able to

attain the optimal cost structure (A.T. Kearney, 1999). Two approaches to the measurement of the efficiency of supply chains are dominant in the literature: the Balanced Scorecard adapted to the needs of supply chains, and SCOR (Suerle and Wagner, 2002). The application of the Balanced Scorecard approach to the evaluation of supply chain performance has been proposed by P. C. Brewer and T. W. Speh (Brewer and Speh, 2000) and by H. J. Bullinger et al (Bullinger et al, 2002). The indicators relate to four Scorecard perspectives and three levels of the supply chain, namely, operations, processes and the supply chain. However, analysis of the literature has shown that most of the indicators constructed in this way relate to logistics internal to the organization, while ignoring the achievements of the entire supply chain. Among the 83 indicators analysed in the framework of the European BestLog project, only 3 were considered applicable to the entire supply chain: faster reaction to changes in fashion, total process time (from design to delivery), and earlier warning of potential problems with delivery (Cuthbertson and Piotrowicz, 2008).

The SCOR (*Supply Chain Operations Reference*) model consists in comparing standard supply chain processes with the best practices established on the basis of the experience of SCC companies. SCOR was developed to analyse supply chains and enable the participants (manufacturers, suppliers, distributors and retailers) to assess their efficiency and to introduce improvements in the flow of goods, labour and information (Dobrzyński, 2005). SCOR is based on six distinct management processes: Plan, Source, Make, Deliver, Return, and Enable. Supply chain performance measures can be built on the basic SCOR processes. A. Gunasekaran and others have created supply chain performance indicators by considering the processes of planning, purchasing (supply), production and delivery on the operating, tactical and strategic levels of the supply chain (Gunasekaran et al, 2001).

Shepard and Gunter have used the processes of planning, purchasing and delivery in connection with the categories of costs, time, quality, agility and innovation.

A review of supply chain case studies produced in the framework of the European BestLog project shows that most of the indicators (48) are tactical or operational. Only 21 indicators can be considered relevant to the strategic level (Cuthbertson, Piotrowicz, 2008). This is unfortunate, since a comprehensive evaluation of the achievements of supply chains should be based on information about all the levels of supply chain management. The authors of this report also point out that none of the supply chain efficiency indicators pertain to environmental or social aspects.

The SCOR model uses a supply chain strategic matrix to identify the strategic features of a given supply chain (Curley, 2011). Within this matrix, two perspectives can be distinguished: the client's perspective and the internal perspective of the supply chain. The matrix helps determine the current and target states for each performance attribute (property) of the supply chain. It is considered normal

that a supply chain can achieve top scores only for some performance attributes. These should be the attributes that are most important from the perspective of the given supply chain.

Most publications on supply chains focus either on the dimension of innovation, or on the dimension of efficiency. There is a dearth of studies combining the two perspectives. The exception is the work of J. Trienkenes and collaborators. (Trieneken et al, 2008). The authors of this study have developed an innovation-efficiency matrix. It contains the main innovation and efficiency categories for a fruit supply chain. The innovation categories (product, process, marketing and organizational innovation) are based on Eurostat and OECD data. Efficiency categories for the fruit supply chain – efficiency, responsiveness, quality and agility – are based on research done by other authors. Efficiency indicators depend on the specific nature of a given industry, company, client or key success factors. Because of the diversity of conditions affecting the supply chain, the choice of the key success factor depends on the specific supply chain and its unique features.

## **METHODOLOGY OF MEASURING THE EFFICIENCY OF THE DIFFUSION OF INNOVATION IN THE SUPPLY CHAIN**

Analysis of the studies mentioned above leads to the formulation of several assumptions concerning the methodology of measuring the efficiency of the diffusion of innovation in the supply chain:

- The efficiency of the diffusion of innovation in the supply chain is understood as a positive, effective outcome of the process of spreading innovation in the supply chain.
- To measure the efficiency of the diffusion of innovation in the supply chain, “output” indicators are used to measure the impact of innovation on the achievement of the supply chain's targets. To obtain reliable information about the efficiency of the process of diffusion of innovation in the supply chain, it is necessary to collect “input” category measurements.
- Indicators reflecting the efficiency of the diffusion of innovation in the supply chain are qualitative.
- In order to measure the efficiency of the diffusion of innovation in the supply chain, it is necessary to define efficiency criteria and determine supply chain levels, on which efficiency is to be measured. Efficiency criteria were developed on the basis of the literature mentioned above and materials provided by the Supply Chain Council. A new efficiency criterion was added, namely the “ecological footprint”. Due to difficulties of quantification, the feasibility of a criterion reflecting the impact of the supply chain on society is dubious, though such an addition would be desirable. The levels of the supply chain on which efficiency is measured – resources, operations, processes (logistics) and the business model – were described in previous chapters.



- Since efficiency criteria should take into account the specific nature of a given industry and supply chain, as well as the success factors specific to the supply chain, arbitrarily chosen weights (from 0 to 1) are assigned to the criteria. To ensure that the measures are comparable, it is also assumed that the dimensions of the efficiency of supply chains are always the same, regardless of the specific features of the supply chains. Only the weights are used as a differentiating factor.
- The results of a measurement of the efficiency of the diffusion of innovation in the supply chain are given in the form a matrix, with the efficiency criteria along one axis, and the level of supply chain management at which innovation can manifest itself on the other. The cells of the matrix contain indicators of the efficiency of the diffusion of innovation in the supply chain, based on the literature cited above.

## THE EFFICIENCY OF THE DIFFUSION OF INNOVATION IN THE SUPPLY CHAIN MEASUREMENT MATRIX

Three efficiency perspectives are assumed in the construction of the measurement matrix: the client's perspective, the supply chain's internal perspective and the environmental perspective.

- The client's perspective concerns those features of the supply chain, which determine the efficiency of creating value for the end customer of the supply chain. This perspective is characterized by the following factors:
  - reliability, understood as the supply chain's ability to ship the right product to the right destination at the right time in the right condition and packaging, in the required amount, with the required documentation, to the right customer.
  - speed, defined as the speed with which the supply chain delivers products to customers,
  - agility, understood as the flexibility with which the supply chain responds to changes in the marketplace, so as to maintain or gain competitive advantage (Culey, 2011).

The internal perspective concerns those parameters of the supply chain, which determine the cost efficiency of supply chain management. The following categories (dimensions) are distinguished within this perspective:

  - costs associated with the operation of the supply chain, and
  - assets. This dimension is interpreted as the efficiency of the organization in managing fixed assets and working capital in order to meet demand.

- The environmental perspective concerns the natural environment, in which the supply chain operates. Only one category (dimension) is considered under this perspective, namely:
  - the ecological footprint, understood as the impact of the supply chain on the environment.

The efficiency of the diffusion of innovation should be assumed to manifest itself on the levels of the business model, process, operations and resources.

- The business model level relates to the level of supply chain management in the “logistics stream” layer, which B. Mahadevan calls “one of the three main components of the business model, pertaining to various issues connected with the design of the supply chain for business. (Mahadevan, 2000)”. The process level concerns innovation on the level of processes in the supply chain. Within the SCOR model, the following processes in the supply chain are distinguished: purchasing, production, delivery and returns. These processes have also been incorporated in the proposed measurement matrix.
- The level of operations comprises the day-to-day operations of the company related to the supply chain, which transform “inputs” into “outputs”. The notion of “inputs” refers to materials, intangible needs and information. The processes of transformation include production and the provision of services. The notion of “outputs” refers to material goods, satisfied needs and satisfied customers (Bozarth, Handfield, 2008)
- The level of operations may include the manner in which orders are filled and customers are served or any other activity performed by the enterprise.” The level of resources is the lowest level in the classification of innovation in the supply chain. One school of strategic thinking, namely, resources-oriented thinking, sees the unique configuration of resources and competences as the foundation on which companies build their competitive advantage. Innovation on the level of resources in the classification of innovation in the supply chain includes innovation in the area of material and intangible resources. For example, it may include innovative IT solutions or innovative “human resources”, that is, employees who generate new ideas.

The efficiency of the diffusion of innovation in the supply chain measurement matrix shown in Fig. 1 represents a synthesis of the research methodology under discussion

	CRITERION of EFFICIENCY	SUPPLY CHAIN MANAGEMENT LEVEL			
		Resources	Operations	Processes	Business model
Efficiency perspective	CLIENT'S	<b>RELIABILITY</b>			
		Performance of the supply chain (on the levels of resources, operations, processes and the business model) in delivering: the right product to the right destination at the right time in the right condition and packaging, in the required amount, with the required documentation, to the right customer			
		<b>SPEED</b>			
		The speed with which the supply chain delivers (on the levels of resources, operations, processes and the business model) products to customers			
	INTERNAL	<b>AGILITY</b>			
		The agility with which the supply chain (on the levels of resources, operations, processes and the business model) responds to changes in the marketplace, so as to maintain or gain competitive advantage			
THE ENVIRONMENT	INTERNAL	<b>COSTS</b>			
		The costs associated with the operation of the supply chain (on the levels of resources, operations, processes and the business model)			
	INTERNAL	<b>ASSETS</b>			
		The efficiency of the organization in managing fixed assets and working capital (on the levels of resources, operations, processes and the business model) in order to meet demand			
	<b>ECOLOGY</b>		The ecological footprint of the supply chain (on the levels of resources, operations, processes and the business model)		

Fig. 1. The efficiency of the diffusion of innovation in the supply chain measurement matrix

Source: original research based on: (Culey, 2011), (Trienekens et al, 2008), (Laskowska-Rutkowska, 2015).

- An importance factor (weight) needs to be assigned to each efficiency measure, with 0 indicating the lowest level of importance, and 1 the highest level. The sum of the weights for all the criteria must be equal to 1.

The importance of a given efficiency criterion for a supply chain in a specific industry should be assessed on the basis of a study carried out on a group of clients, supply chain managers and experts. Thus, in the case of innovative products, agility and speed are important. In the case of functional goods, the most important criteria are reliability and the cost-oriented perspective. Efficiency measures can thus be adjusted to the specific characteristics of the industry, in which a given supply chain operates.

The selection of efficiency indicators should also take into account social factors, that is, the impact of the supply chain on human behaviour, since “the subject of measurement will strive to attain the highest possible level on this dimension (Ariely, 2010).” The indicators selected will focus the efforts of employees on achieving the best possible results in the measured categories. The most reasonable course of action is to adjust the measures to the requirements of a given industry, the market and the

mission of the company, and to measure not that which is easiest to measure, but rather that which the company is supposed to achieve. When selecting the measures of the efficiency of the diffusion of innovation in the supply chain one should start with the question of what should be maximized (what results the supply chain is expected to achieve). Next, one should ask what should be measured and how.

## USING THE EFFICIENCY OF THE DIFFUSION OF INNOVATION IN THE SUPPLY CHAIN MEASUREMENT MATRIX

Two matrices should be generated. The first should contain “input” data, reflecting the state before the process of innovation diffusion commenced, and the second should contain “output” data, reflecting the state after the process of innovation diffusion in the supply chain under analysis has run its course.

This requires that information on the achievements of each supply chain be classified according to efficiency dimensions. Figure 2 shows a matrix, in which achievements of supply chains for the category of “reliability” should be entered.

SUPPLY CHAIN MANAGEMENT LEVEL		LEVEL OF				
		Resources	Operations	Processes	Business model	
The perspective of the client	Efficiency criterion	Reliability	The speed with which the supply chain delivers (on the levels of resources, operations, processes and the business model) products to customers			
	Performance of industry leader					
Average performance in the given industry						
Weakest performance in the industry						

rement matrix for the effects of the supply chain in the category of “reliability”

Source: original work.

Such matrices should be created for each dimension of the efficiency of the diffusion of innovation in the supply chain, that is, for speed, agility, costs, assets and the environment. Effects achieved in a given dimension/dimensions by leading supply chains will become a model for other supply chains, trying to implement the innovations. Once a sufficient quantity of data on the efficiency of the diffusion of innovation in the supply chain has been collected, it will be possible to create a database, which can be used to create scales for the evaluation of the efficiency of the diffusion of innovation in the supply chain for each efficiency dimension.

## A SYNTHETIC INDICATOR FOR MEASURING THE EFFICIENCY OF THE DIFFUSION OF INNOVATION IN THE SUPPLY CHAIN

A synthetic indicator that incorporates all the dimensions of efficiency is proposed as a measure of the efficiency of the diffusion of innovation. For each level of the supply chain, its efficiency  $E_i^j$  needs to be defined, where the subscript  $i$  denotes the supply chain, and the superscript  $j$  denotes the level of innovation, and takes on the values 1, 2, 3 and 4 for the levels of resources, operations, processes and business model respectively. Considering the different dimensions of efficiency, the following components of the synthetic indicator are proposed:

$EN_i^j$  – reliability,  $j$ th level,  $i$ th chain,

$ES_i^j$  – speed,  $j$ th level,  $i$ th chain,

$EE_i^j$  – agility,  $j$ th level,  $i$ th chain,

$EK_i^j$  – operating costs,  $j$ th level,  $i$ th chain,

$EA_i^j$  – the organization's efficiency,  $j$ th level,  $i$ th chain, in the management of fixed assets and working capital for the purpose of meeting demand,

$ESR_i^j$  – ecological footprint,  $j$ th level,  $i$ th chain.

In order to represent the numerical values of these quantities, it is necessary to define, for each dimension, a variable which increases with the increasing quality of the supply chain in terms of reliability, speed, efficiency, etc. For example,  $x(EN_i^j)$  denotes the values of a variable associated with reliability, and if the reliability of the  $k$ th chain is higher than the reliability of the  $i$ th chain for the  $j$ th level, then the following inequality holds:

$$x(EN_k^j) > x(EN_i^j) \quad (*)$$

In order to develop a synthetic measure of supply chain efficiency, it is necessary to reduce the components of the measure to commensurate values. Two alternative ways of defining the component associated with the dimension of speed can therefore be proposed (for any other dimension the component is defined in the same way):

$$(x(ES_i^j))$$

and

$$ES_i^j = \frac{x(ES_i^j) - \bar{x}(ES^j)}{s(ES^j)}$$

where:

$I$  is the set of supply chains,  $\bar{x}(ES^j)$  is the average speed of the supply chains, and  $s(ES^j)$  denotes the standard deviation from the mean speed of delivery.

These operations, which lead to commensurate efficiency indicators for different dimensions, make it possible to define a synthetic measure of efficiency in the following way:

$$E_i^j = w_1 EN_i^j + w_2 ES_i^j + w_3 EE_i^j + w_4 EK_i^j + w_5 EA_i^j + w_6 ESR_i^j, \quad (**)$$

where the weights are chosen arbitrarily and satisfy the following conditions:

$$\sum_{i=1}^6 w_i = 1,$$

$$0 < w_i < 1, \text{ for } i=1,2,3,4,5,6.$$

## CONCLUSION

The general methodology described above provides a framework for the development of indicators that can be used to measure the efficiency of the diffusion of innovation in specific industries and companies. This is a conceptual paper, and the ideas put forward in it will require empirical research to prove the practical applicability of the proposed measures. However, it is hoped that it will stimulate a scientific debate focusing on two questions: firstly, whether the availability of a common methodology may ensure comparability of data within an industry, as well as between industries, taking into account their distinguishing characteristics; and, secondly, whether the above data could become the basis for a set of best practices for the diffusion of innovation in the supply chain. When data has been collected for a sufficiently large number of supply chains to consider it a representative sample, it should be possible to compare superior and inferior outcomes of the diffusion of innovation in the supply chain. Such a comparison will in turn enable the creation of a database of “best practices” for the management of the diffusion of innovation in the supply chain. The term “best practice” signifies the best way of doing something, comprising procedures and actions that have turned out to be most effective in practice. The availability of a database of best practices relevant to the diffusion of innovation in the supply chain would bring about greater awareness of the ways in which innovation can be fostered in supply chains and the ability to measure the efficiency of innovative solutions. This would also lead to increased innovation in other supply chains, whose managers would be prepared to transfer the best practices to their supply chains.

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## A PREDICTIVE MODEL OF CONSUMER-LUXURY BRAND RELATIONSHIPS

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### ABSTRACT

While research on consumer-brand relationships has matured over the past decades this variable has yet to be operationalized in the consumer-luxury brand field and, while extensively used, a parsimonious definition of what constitutes a luxury brand has not been developed. This paper intends to provide a definition of the luxury brand and examine a predictive model to better understand the consumer-luxury brand relationship, which describes its product characteristics and behavioural components. A survey was conducted in Europe (i.e., Portugal) and featured 16 well known luxury brands from the Best Global Brands 2013 as well as trade industry information concerning the luxury Portuguese market. A sample of 381 luxury brand consumers was selected in a random manner by surveyors in two major cities in Portugal. This study employs factor analyses in a two-stage process (exploratory and confirmatory factor analysis) and structural equation modelling techniques. This study examines a predictive model of the consumer-luxury brand relationship between four main characteristics (quality, price, aesthetics, rarity and uniqueness) of luxury products and psychological bond of consumers (brand commitment, brand intimacy, brand self-connection, brand partner-quality and satisfaction). The results of this study find that the quality, aesthetics, and rarity and uniqueness of products are positively associated with brand commitment, brand-intimacy, self-connection, partner-quality, and satisfaction while the three latent variables representing the consumer-luxury brand relationship play an important role in strengthening the consumer-luxury brand relationship.

**Keywords:** *luxury brand, luxury brand model, brand personality, brand relationship, symbolic consumption, brand commitment, brand intimacy, brand self-connection, partner-quality*

### INTRODUCTION

Today, 'luxury' remains one of the most problematised terms in business language. Conversations around what luxury means will range from the external to the internal, from statements of status to a deeper sense of discovery and learning, from the superficial and superfluous, to truly unique products



and experiences that will be treasured for a lifetime. The world still has a love-hate relationship with luxury. What is consistent through the ages is that we understand luxury differently dependent upon culture.

In the last two decades, the luxury construct has gained relevance in the literature due to the creation of conglomerates such as LVMH, Gucci group and Richemont (Okonkwo, 2009) as well as the importance that luxury brands have assumed in contemporary consumption and communication activities (Chevalier and Manzalovo, 2008). The significance of luxury as a distinct entity was highlighted in 2013 when the “European Commission acknowledged luxury as a sector in its own right, instead of part of another industry such as textiles, cars or leather goods” (Daneshkhu, 2013). This is described as “our first public achievement” by Armando Branchini, president of the European Cultural and Creative Industries Alliance (ECCIA), a lobby group. For the first time, the EU’s executive body had “recognised ... the high-end industry as the pillar of cultural and creative industries”, said Mr Branchini, who is also head of Altagamma, Italy’s luxury goods association which created the ECCIA in 2010, together with France’s Comité Colbert, the UK’s luxury body Walpole, Meisterkreis in Germany and Spain’s Circulo Fortuny.

It is, however, unfortunate that the EU commission did not build on their recognition and pursue a definition of what product classifications actually constitute the sector. Without such an understanding it is likely that some firms will seek to have their products/services (for writing flow and readability, forward products will generally be understood to represent both products and services) listed as luxury to accrue whatever benefits such recognition offers while others may seek to dissociate with the luxury title to avoid potential negative consequences such as barriers to markets or additional taxes.

The study of consumer-brand relationships toward the end of the twentieth century has resulted in research which generally implies brand personification (i.e., a brand has a personality). The interpersonal metaphor approach used by Fournier (1998) for conceptualizing consumer-brand relationships built on this foundation (Keller, 2003). The Fournier (1998) study furthered the understanding the use and experiences with familiar brands, whether functional or symbolic in nature, have an important role in building consumers’ daily life stories. The research also offered a typology of consumer-brand relationships broader in scope than the common approaches. Extending the idea of personification of brand Aggarwal (2004) states that “Once, products and brands are associated with human qualities people may interact with them in ways that parallel social relationships, and their interactions are guided by the norms that govern these relationships” (p. 88). The understanding that a consumer-brand relationship is a social bond reinforces that it is reasonable,

and makes sense, to study consumer-brand relationships under the umbrella of the theories relating to social relationships.

To this end, the first section of this paper reviews prior research pertaining to the characteristics of a luxury brand definition to formulate a better understanding of the key dimensions behind a luxury brand choice and usage. A luxury brand carries out important symbolic meaning that fulfils consumers' psychological needs. This leads to an emphasis on psychological benefits versus functional benefits as one of the features that characterizes luxury brands and distinguishes them from non-luxury brands (Vigneron and Johson, 2004). As such, the study of luxury brands is an attempt to understand the meanings that consumers bring to their lives when involved in relationships with luxury brands. Using five distinct parameters Shukla and Purani (2011) comparing the importance of luxury value perceptions in cross-national contexts support the notion that several luxury value perceptions may be highly influential among all cultures and countries. However, their degree of influence may differ dramatically. To this end, the second section of this paper examines a conceptual model that this multinational research underlays the importance of assuring that a consistent definition of luxury brands across not only products but nations as well. From an applied perspective at the managerial level a clear definition of luxury brands will allow practitioners to define strategies and actions to address lasting consumer-brand relationships. In this vein a predictive model of luxury brand relationships is proposed.

## LITERATURE REVIEW AND HYPOTHESES

### *Luxury Brand Characteristics*

The luxury product characteristics are controlled by the luxury product manager where at the foundation the luxury product delivers a quality offering with high price as well as charming and different product aesthetics. The product manager (service provider) drives the product further to exclusivity by making it hard to attain by a general public adding extraordinariness to its features. At the highest level the product has matured to signal a well-respected, firmly established sign of its luxurious characteristic to the consumers.

Allison and Uhl (1973) noted that the perceived quality, rather than the actual quality, of a product is what is meaningful in consumer preferences. Numerous studies (Bilkey and Nes, 1982; Rasky, 1986) have explored the "made in" implications to consumers as they relate to country of origin and its effect on the consumer's perception of quality. Understanding the importance of origin of country is paramount when attempting to market against foreign competition whose goods are perceived by the consumer to be of superior quality. It would appear then that product value is not only a function of price and actual quality but also the quality as well as what is perceived (Vigneron and Johnson, 2004).

High price is also frequently perceived as a differentiator of social status, where conspicuous consumption of luxury is frequently used for the purpose of signalling social status (Eastman and Eastman, 2011). Price has proven to be the most objective characteristic in evaluating the luxuriousness of a product (Heine and Phan, 2011) and requires no psychological perceptions other than one knows the price. Price alone does not create a prestigious image (Eastman and Eastman, 2011), as not all expensive products are considered luxury. Low-priced products are rarely recognized as luxury, and therefore price forms a fundamental and mandatory requirement for luxury. Clements and Gao (2012) introduce two related measures based on the luxury/necessity distinction. One is an index of the extent to which the prices of luxuries change as compared to necessities, while the second indexes the change in spending.

Aesthetic design and ideology is often an extension of highly creative individuals, and the aesthetic characteristics they imbue into a product brand frequently resemble works of art, inducing emotions of exclusivity and superiority (Dion and Arnould, 2011). Dion and Arnould (2011) further state that luxury draws on the principles of art and magic to enlist magical and aesthetic principles within and without the store to achieve these ends. They note that luxury retail strategy differs from other retail in that it increasingly stands or falls on the legitimacy of a charismatic creative director who seeks to generate awe rather than community.

Consumers use the extrinsic product characteristics of rarity and uniqueness, as well as the concrete or abstract connections with luxuriousness, to exhibit social status and association, or in some cases dissociation, from social groups (Han, Nunes, and Dreze, 2010). Han et al. (2010) provide additional insight that majority of consumers actively signal to others that are equal and above their perceived social status their personal use and consumption of prominent luxury brands. Social association (Wilcox et al., 2009) and social dissociation (Han et al., 2010) are consumer aspirational goals, where some consumers of perceived higher social status consume luxury to dissociate from those of perceived lower status, and vice versa.

An inference that can be made between extrinsic luxury product characteristics and extrinsic luxury brand consumer psychological attributes is that the more rare or more unique a product characteristic is perceived to be the higher will be the perceived social value and thus the higher price premium and luxuriousness that can be attained. Luxury product brand consumers deriving social status from the ownership of a rare or unique product can drive price in some sorts of products, such as a treasured paintings. Some would argue these objects have basically limited actual physical product value and only derive additional value from the extrinsic qualities awarded by individuals or groups. As such, the value of this classification of products is not related to physical properties but defined as a

distinction of perceived social values within a socioeconomic context by those that covet them (Vigneron and Johnson, 2004).

Luxury product brands laden with subtle symbolism and heritage can be related to emotional qualities of personal indulgence and a self-expression (Eastman and Eastman, 2011). Due to the transcendence of these intrinsic characteristics from functionality and social pursuits, the value attributable to symbolism and heritage defy traditional means of price valuation (Kapferer, 2012). As such their value driven to be significantly greater than their cognitive and extrinsic characteristics. It is interesting that in pursuit of a luxury brand definition that “currently both consumers and advertisers describe luxury products in more abstract language than they describe ordinary products, and that abstract product descriptions are perceived as more luxurious than concrete product descriptions” (Hansen and Wänke, 2011).

### *Hypotheses*

A luxury product’s physical characteristics can be considered as a varying range of dimensions that increases proportionately with perceived luxuriousness. The major characteristics can be further categorized into concrete and abstract features, with quality having many sub-characteristics. Price is recognized as the function of physical costs of production plus consumer’s perceived value. It is the most basic requirement of luxury definition in the current socio-economic context because wealth remains the only consistent differentiator of social status.

At this high level of interaction between luxury product characteristics and luxury brand consumers a strong relationship is created based on the luxury product characteristics of quality, price, aesthetic design, and rarity and uniqueness. This research intends to examine how the physical characteristics of luxury products are related to the psychological bond of luxury brand consumers to the consumer-luxury brand relationship strength. In extending and integrating the highlighted literature this study intends to examine the following hypotheses:

*Hypothesis 1: Luxury product characteristics (i.e., quality) are likely to have a positive effect on the consumer-luxury brand relationship strength.*

*Hypothesis 2: Luxury product characteristics (i.e., price) are likely to have a positive effect on the consumer-luxury brand relationship strength.*

*Hypothesis 3: Luxury product characteristics (i.e., aesthetics) are likely to have a positive effect on the consumer-luxury brand relationship strength.*

*Hypothesis 4: Luxury product characteristics (i.e., rarity and uniqueness) are likely to have a positive effect on the consumer-luxury brand relationship strength.*

## RESEARCH METHODS

### *Survey and Sample Characteristics*

A survey was conducted in Europe (i.e., Portugal) and featured 16 well known luxury brands: Chanel, Armani, Calvin Klein, Ralf Lauren, RayBan, BMW, Audi, Mercedes, Hugo Boss, Moët et Chandon, Burberry, Dior, Gucci, Aramis, Pousadas de Portugal, Ermegildo Zegna. The selection of these brands, representing different product categories and brand personalities, was guided by information from the Best Global Brands 2013 (Interbrand, 2013) as well as trade industry information concerning the luxury Portuguese market.

A sample of luxury brand consumers was selected in a random manner by surveyors at different department stores, premium outlets, and shopping malls in two major cities in Portugal. Out of the 523 consumers approached 418 luxury brand consumers responded to the survey. Of the 418 that filled in questionnaires in the survey 37 questionnaires were removed from the data set as they had missing data, and thus resulted in a final sample size of 381 cases. Table 1 describes descriptive statistics of luxury brand experience of the respondents.

	Male (n=177)	Female (n=194)	All (n=381)	All (n=381)
Brand Name	Percent (%)	Percent (%)	Percent (%)	Frequency
Chanel	8.5	29.9	19.7	75
Armani	4.5	5.2	5.2	20
Calvin Klein	6.8	11.3	8.9	34
Ralf Lauren	11.3	8.2	9.4	36
Ray Ban	10.2	8.2	8.9	34
BMW	7.9	2.1	5.8	22
Audi	5.6	2.1	3.7	14
Mercedes	23.7	20.6	21.5	82
Hugo Boss	7.9	3.1	5.8	22
Moet et Chandon	3.4	2.1	2.6	10
Burberry	2.3	1.0	1.6	6
Christian Dior	1.1	3.1	2.1	8
Gucci	0	1.0	0.5	2
Aramis	2.3	0	1.0	4
Portugal	3.4	2.1	2.6	10
Zegna	1.1	0	0.5	2
Total	100	100	100	381

Table 1. *Descriptive Statistics of Luxury Brand Experience of the Respondents*

The sample represented the population in gender as 47.7% of male and 52.3% of female participated in the survey. It was found that the demographics of the sample were consistent with the population of the nation in terms of age and sex. The average age of the respondents was 34 years old (standard deviation = 14.032) with a minimum of 18 and a maximum of 69 years old, 1% less than 20 years old, and 57% more than 30 years old. Unlike the general population but indicative of luxury buyers more than 75% of the respondents reported that they finished university or college education.

#### *Survey Items and Instruments*

Given that the empirical model in this study embeds complex relationships between consumer expectations and their perception for luxury brands, the study collected self-reported consumer's perceptions. A structured questionnaire, based on a study of existing literature, was developed. The modified short version of survey items of measuring consumer-brand relationships was developed and derived from the relationship ideals scale (Fletcher et al., 1999), which included 23 items relating to various constructs discussed in this study. The respondents were asked to describe their luxury brand relationship with a set of attributes characterizing themselves. For example, "If luxury brand is a person, how would you describe your relationship with the luxury brand?" A seven-point scale was used to collect responses of those twenty-three items, ranging from 1 "least adequate" to 7 "most adequate". To analyse consumer-brand relationship strength, the relationship strength indicators and partner quality scale (Aaker et al., 2004) were used. The respondents were asked to describe their luxury brand relationship strength with a set of attributes for characterizing their relationship. A seven-point scale was used to collect responses of the survey items, ranging from 1 "completely disagree" to 7 "completely agree".

#### *Factor Analysis and Internal Consistency Reliability Test*

Construct validity embraces a variety of techniques for assessing the degree to which an instrument measures the concept that it is designed to measure. In order to ensure the construct validity of the measurement instrument, factor analysis was employed in a two-stage process. First, exploratory factor analysis with a varimax rotation procedure was employed to identify underlying predictors based on an eigenvalue cut-off of one. Second, confirmatory factor analysis using structural equation modelling techniques was employed to confirm that the identified predictors are fitted the items correctly and reliably.

To identify underlying predictors of consumer-luxury brand relationship strength, factor analysis with a varimax rotation procedure was employed. The exploratory factor analysis was used to uncover the underlying structure of a large set of items and identified five components based on an eigenvalue cut-off of one: component one with five items (eigenvalue = 3.761), component two with five items (eigenvalue = 3.465), component three with four items (eigenvalue = 2.489), component four with three items (eigenvalue = 2.456), and component five with two items (eigenvalue = 1.722). This resulted in the retention of 19 items out of 25, which represented the five components. Afterward, the five components were used for following analyses. To test the appropriateness of factor analysis, two measures - the Kaiser-Meyer-Olkin and the Bartlett's test - were used. The Kaiser-Meyer-Olkin overall measure of sampling adequacy of 0.887 falls within the acceptable significant level at  $p < 0.001$ . The Bartlett's test of sphericity of 4575.602 at 171 degree of freedom shows a highly significant correlation among the survey items at  $p < 0.001$ . The sums of squared loadings from the five components have the cumulative value of 73.122 percent in explaining the total variance of the data. The results of exploratory factor analysis using principal component analysis extraction method are reported in Table 2.

Item Code	Factor Loadings	Eigenvalues	% of Variance	Construct Name	Cronbach $\alpha$	Item-total Correlation
BA2	0.633	2.489	13.101	Commitment	0.794	0.669
BA3	0.827					0.615
BA4	0.551					0.486
BA6	0.686					0.651
BA9	0.624	2.456	12.927	Brand Intimacy	0.865	0.622
BA10	0.893					0.836
BA11	0.877					0.764
BA13	0.723	1.722	9.061	Satisfaction	0.721	0.564
BA14	0.622					0.564
BA15	0.714	3.761	19.794	Self-Connection	0.895	0.746
BA16	0.678					0.737
BA17	0.807					0.778
BA18	0.801					0.716
BA19	0.779					0.730
BA21	0.756	3.465	18.239	Partner Quality	0.886	0.714
BA22	0.828					0.754
BA23	0.848					0.797
BA24	0.784					0.739
BA25	0.721					0.617

Table 2. Results of Factor Analysis for Consumer-Luxury Brand Relationship Strength

Internal consistency reliability is a measure of how well a test addresses different constructs and delivers reliable scores. The most common method for assessing internal consistency is Cronbach's alpha. This form of intra-class correlation is closely related to convergent validity, i.e. the extent to which the items in a scale are all highly inter-correlated. For example, the survey items are divided into the five constructs. The internal consistency reliability test provides a measure so that each of these particular constructs is measured correctly and reliably. The results of internal consistency reliability tests for the five constructs of consumer-luxury brand relationship strength are reported as follow: self-connection (5 items,  $\alpha = 0.895$ ), partner quality (5 items,  $\alpha = 0.886$ ), commitment (4 items,  $\alpha = 0.794$ ), brand intimacy (3 items,  $\alpha = 0.865$ ), and satisfaction (2 items,  $\alpha = 0.721$ ). The detailed results of internal consistency reliability tests, including item-total correlation coefficient values, are reported in Table 2.

Hypothesis	Path	Male(177)	Female(194)	All(381)	Decision
H1	Quality → Commitment	0.497***	0.355***	0.471***	Accept
	→ Brand Intimacy	0.563***	0.099***	0.415***	Accept
	→ Self-Connection	0.282***	0.227***	0.351***	Accept
	→ Partner Quality	0.571***	0.339***	0.465***	Accept
	→ Satisfaction	0.497***	0.062	0.388***	Accept
H2	Price → Commitment	0.279***	0.324***	0.226***	Accept
	→ Brand Intimacy	0.031	0.064	-0.054	Reject
	→ Self-Connection	0.018	0.002	-0.052	Reject
	→ Partner Quality	0.025	-0.158	-0.087	Reject
	→ Satisfaction	-0.117	0.044	-0.095	Reject
H3	Aesthetics → Commitment	0.266***	0.189***	0.306***	Accept
	→ Brand Intimacy	0.264***	0.321***	0.303***	Accept
	→ Self-Connection	0.206***	0.493***	0.395***	Accept
	→ Partner Quality	0.427***	0.371***	0.373***	Accept
	→ Satisfaction	0.226***	0.471***	0.393***	Accept
H4	Rarity → Commitment	0.357***	0.265***	0.381***	Accept
	→ Brand Intimacy	0.211***	0.067	0.278***	Accept
	→ Self-Connection	0.835***	0.157***	0.475***	Accept
	→ Partner Quality	0.131	0.215***	0.218***	Accept
	→ Satisfaction	0.728***	0.322***	0.562***	Accept

Note: Numbers in the cells are standardized regression weights. Probability values for rejection of the null hypothesis of zero coefficient are employed at the 0.05 level (\*\*\*)  $p < 0.01$ .

Model fit summary: The minimum value of the sample discrepancy, CMIN (= 869.782), degree of freedom, DF (= 616), CMIN/DF (= 5.008).

Model fit measures: The goodness of fit index, GFI (= 0.928), the adjusted goodness of fit index, AGFI (= 0.903), the parsimony goodness of fit index, PGFI (= 0.895), the root mean square residual, RMR (= 0.043).

Baseline comparisons measures: The Bentler-Bonett normed fit index, NFI (= 0.913), the Bollen's relative fit index, RFI (= 0.903), the Tucker-Lewis coefficient index, TLI (= 0.935), the comparative fit index, CFI (= 0.942).

Parsimony-adjusted measures: The parsimony ratio, PRATIO (= 0.925), PNFI (= 0.872), PCFI (= 0.895). The



estimate of the non-centrality parameter, NCP (=2468.948), the root mean square of approximation, RMSEA (= 0.036), the Akaike information criterion, AIC (=3258.948), the Browne-Cudeck criterion, BCC (=3278.281) and the Bayes information criterion, BIC (=3601.972).

Table 3. Results of Structural Equation Model Estimates

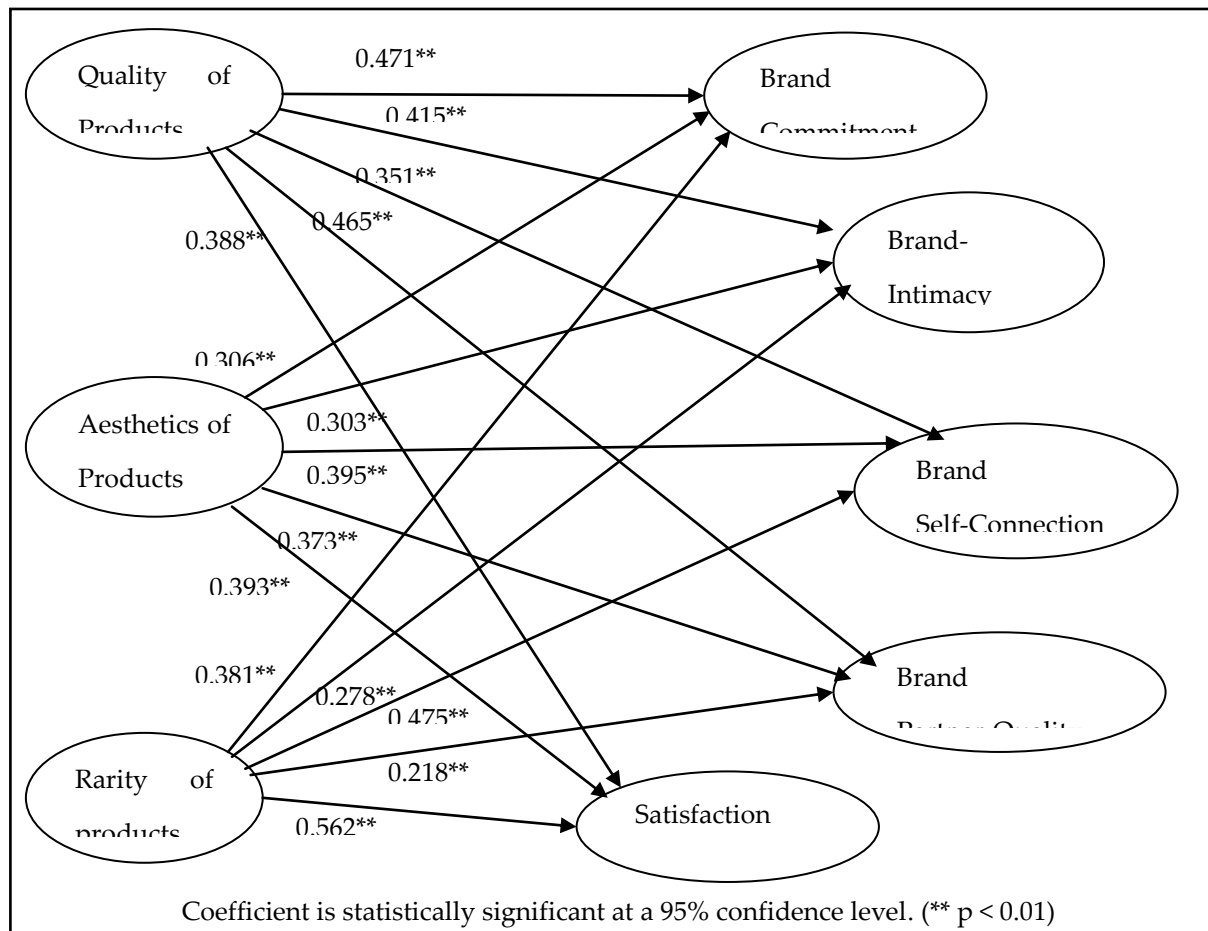


Figure 1. Path Diagram of Consumer-Brand Relationship and Its Strength

## RESULTS

### Structural Equation Model and Estimates

The results of the analysis of moment structures generally achieve acceptable goodness-of-fit measures, see Table 3. For example, the index of the goodness of fit index (= 0.928) indicates that the fit of the proposed model is about 93% of the saturated model (the perfectly fitting model). The index of the normed fit index (= 0.913) indicates that the fit for the proposed model is about 91%.

In testing hypothesis 1 that the quality of products is likely to have a positive effect on the consumer-luxury brand relationship strength, Table 3 shows that there is a positive relationship between the latent variables and statistically significant at a 99% confidence level ( $p < 0.01$ ). However, in testing hypothesis 2 that the price of products is likely to have a positive effect on the consumer-luxury brand

relationship strength, Table 3 shows that there is a negative relationship between the latent variables, but statistically insignificant at a 95% confidence level ( $p > 0.05$ ). In testing hypothesis 3 that the aesthetics of products is likely to have a positive effect on the consumer-luxury brand relationship strength, Table 3 shows that there is a positive relationship between the latent variables and statistically significant at a 99% confidence level ( $p < 0.01$ ). In testing hypothesis 4 that the rarity and uniqueness of products are likely to have a positive effect on the consumer-luxury brand relationship strength, Table 3 shows that there is a positive relationship between the latent variables and statistically significant at a 99% confidence level ( $p < 0.01$ ).

Figure 3 displays a path diagram of the consumer-luxury brand relationship strength. Overall, the quality, aesthetics, and rarity and uniqueness of products are positively associated with brand commitment, brand-intimacy, self-connection, partner-quality, and satisfaction while the three latent variables representing the consumer-luxury brand relationship play an important role in strengthening the consumer-luxury brand relationship.

## DISCUSSIONS

Four main characteristics of luxury products were tested each exploring how the consumer has developed a psychological bond to a specific aspect of the consumer-luxury brand relationship with a set of relationship strength measurement variables. These were how a main characteristic of products had an effect on: 1) brand commitment, 2) brand intimacy, 3) brand self-connection, 4) brand partner-quality and 5) the extent the attribute had an effect on consumer satisfaction to the luxury brand.

Recognition of the importance of the consumer-luxury brand relationship, how they are established and factors that might influence the psychological bond during situations of brand disruption are of increasing importance. The results of this study find that the quality, aesthetics, and rarity and uniqueness of products are related to the psychological bond to maintain the consumer-luxury brand relationship through brand commitment, brand intimacy, brand self-connection, brand partner-quality, and brand satisfaction. One might argue that in the consumer-luxury brand relationship the quality of the brand adds value to the consumer through partner quality in a manner similar to the way that the aesthetics, rarity and uniqueness of products add value to the self-connection (personal) relationship. They provide a type of psychological glue that secures the bond between luxury brands and consumers in the emotional luxury brand experience. When difficulties arise it is the glue that serves to secure relationships, whether personal or brand.

This research was conducted in Europe and there is always a potential criticism concerning the ability to generalize the research results of one study to a broader (and in this case international) population. Addressing that potential criticism it is noteworthy that a survey was conducted by Webo (Webo is

China's major text messaging similar to twitter) in 2011 and again in 2012 to determine the consumer's perspective of top ten brands in China. Six of the top ten Chinese brands (Chanel, BMW, Audi, Mercedes, Burberry, and Dior) were on the author's European research list of 16 companies demonstrating that even without a clear definition of what encompasses the luxury brand there appears to be international consumer consensus on what companies represent a top luxury brand. In addition a seventh company (of 10) on the Webo survey list, Coach, is in the same classification as the firms Gucci, Aramis, Zegna and Hugo Boss, which were on the research list which further illustrates the universality and, due to the time frames involved, sustainable nature across of the international luxury brand.

## CONCLUSIONS

The research has demonstrated that a predictive model of the consumer-luxury brand relationship is valid and helps to organize meaning in a consumer's mind. The study has provided implications of a practical nature. The successful application of an interpersonal relationship inventory in a branding setting would be of particular interest to marketers, and it may provide a basic and a user friendly framework that might be useful in the development of a relationship brand strategy.

This study also emphasizes the role of the consumer-luxury brand relationship in appreciating and defining multi-brand and symbolic consumption. In addition, the results of the study offer a more holistic perspective to better understand luxury brand personalities. One contribution of the study is to promote the understanding of how the consumer-luxury brand relationship such as self-connection and partner-quality can stimulate sales but the relationship such as intimacy can contribute to business continuity during times of brand disruptions. This is directly relevant to how a firm should position in the consumer-luxury brand relationship with the understanding that factors such as brand commitment that may have immediate sales consequences.

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## ASSESSMENT OF TAX BURDEN ON THE OWNERSHIP AND USE OF ROAD FREIGHT TRANSPORT IN RUSSIA

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### ABSTRACT

The article looks at how taxes influence tax payers' decision as to whether to own and use road freight vehicles. Types of taxes and fees imposed on the purchase and operation of road freight transport as a business are described in detail. Substantiation is provided for an idea that it might be useful to introduce a classification that divides taxes into fixed, variable, and operating ones with regard to the intensity of road freight vehicle use. Fixed transport taxes are viewed as a tax price that is paid for owning a vehicle. Variable transport taxes are viewed as a tax price paid for using the road network. Operating taxes are viewed as a tax price that is paid for running a road haulage business. The study examines the share of fixed, variable and operating taxes in the cost of owning and using a road freight vehicle. A conclusion is made that the total amount of all taxes grows in absolute values for vehicles with a bigger payload capacity, but declines per tonne-kilometre of travel. A conclusion is made that the total amount of all taxes on the use of road freight transport is much lower than the amount of taxes paid on transporting cargo by automobile. The purpose of this research is to assess how the Russian system of road freight transport taxation aligns with global and European trends and to identify areas of further improvement to the truck tolling system.

**Keywords:** *fixed transport taxes, variable transport taxes, operating transport taxes, road freight cost of owning*

### INTRODUCTION

Road freight transport plays a very significant role in the economy of any country. This type of transport generates positive externalities that are important for the economy as a whole and for each household. Road freight transport provides the transit of raw materials and finished products between economic entities. Additionally, road freight transport supports the operation of households by delivering goods they consume and transporting products they turn out.

The operation of road freight transport also creates substantial negative externalities that cannot be ignored. More specifically, road freight transport occupies a lot of road and parking space; it inflicts excessive damage to the road surface, causing it to wear out faster; it has a noticeably negative impact on the environment and is a source of noise. These negative externalities need to be compensated for by means of transport taxes.

At the same time, road freight transport is not homogeneous. Different types of freight transport have different effects and the tax burden on each of them should vary. Such differentiation must not, however, distort competition in the hauling industry.

Two substantial types of competition have now taken shape in the freight industry: (1) external competition between road freight transport and other means of transport (rail, maritime, air); (2) internal competition between various types of road freight transport (light duty, medium duty, and heavy duty). This study aims to establish the role of taxes in a taxpayer's decision as to whether to own and commercially operate a freight vehicle in Russia.

## **1 THEORETICAL AND METHODOLOGICAL ASPECTS OF ROAD FREIGHT TRANSPORT TAXATION: EXPERIENCE OF OTHER COUNTRIES**

It has to be noted that scholars across the world have made considerable progress in the study of the size of charges levied on the operation of various vehicles (including freight ones). Meanwhile, Russia has been lagging behind in research on the matter.

The European Commission has been the key source of initiative for such research, actively providing funding for it over the past two decades. The research sought to harmonize taxation across the European Union and to reduce the discriminatory potential of road haulage regulations in different EU member states.

The most comprehensive take on the matter can be found in works by Nash, Link et al. (Link, 2006), (Link et al., 2014). There are two approaches to charging for the use of road freight transport. The first one is to factor in marginal external costs imposed by the use of road freight transport. The second one is to charge for rectifying the impact of using road freight transport. The first approach is more common of the two. The estimation of externalities on the basis of marginal external costs in European countries made it possible to identify and quantify six key elements.

(1) Additional wear and tear on road infrastructure. The marginal costs of this element were estimated by Link, Nilsson, Lindber (Link, 2006), (Nilsson, 2006), (Lindberg, 2006).

(2) Time lost due to congestion. The marginal costs were estimated using imitation modelling that pull together speeds, flow, substitute routes etc. (Bickel et al., 2006).

(3) Road traffic injuries. The estimation of marginal costs is based upon the value of a statistical life (VSL), that is, the willingness to pay a price in order to reduce the probability of casualties (Bickel et al., 2006), (Lindberg, 2006).

(4) Noise costs are measured using the hedonic price method that measures a change in the price of a property (e.g., a house) caused by higher levels of transport noise (Nellthorp et al., 2007).

(5) Air pollution is measured through the costs inflicted by a higher mortality rate or ill health.

(6) Global warming driven by the emission of greenhouse gases and the monetary value of climate change (Parry et al., 2007), (Lemp and Kockelmann, 2008), (Delucci and McCubbin, 2010).

Median marginal costs of these elements were revealed in a study by Ricci (Ricci et al., 2008) and range between 0.435 and 0.535 euros/vkm during nighttime off-peak hours, which, with certain reservations, can be considered an equivalent of 30 to 37 RUB per tonne-km at 2007 prices.

The theoretical estimations provided a ground for an effective cargo vehicle taxation system that takes into account marginal external costs and includes country-specific annual duties (licenses) and dual taxes as well as toll charges that vary by country. This provides for harmonization of road haulage charges across Europe.

Most European countries have introduced HGV fees that are based on the number of axles and/or the vehicle's weight and its emission class. This makes it possible to factor in two key elements of externalities: wear and tear on the road surface and the cost of air pollution. The size of the fee varies from 0.081 euro/km to 0.4473 euro/km, which is an equivalent of 6.5 to 31 RUB per km. The tolling system in use has, however, some issues: the electronic toll collection system is costly to run; if the cost of administering the fee collection is acceptable, the system is unable account for such factors as the time of the day, road characteristics (such as pavement thickness), and only covers a limited number of roads (Litman, 2011), (Levinson, 2010).

## **2 TAXES PAID BY ROAD FREIGHT TRANSPORT**

The system of transport taxes and levies that are paid by hauliers in Russia was created in the mid-1990s and encompasses a number of elements that were in use in the transport taxation system back in the Soviet period. Back then, the main goal of the system was to encourage car ownership, fleet renewal and an increase in cargo shipment volumes. It is practical to divide taxes and levies paid by transport operators into three groups.

Fixed taxes. For these taxes, the rates are not pegged to the intensity of car use. These are taxes on owning a vehicle. They are paid on a one-time basis when a vehicle is purchased and then on a regular basis regardless of how often the vehicle is used. The size of the taxes is a determining factor of the

affordability of a car and, consequently, of the ease of entry into the road haulage market. The payment of fixed transport taxes is therefore viewed as the tax price of owning the vehicle. In Russia, fixed transport taxes include VAT, registration fees, the recycling fee, and annually paid vehicle tax. In Russia, no stamp fee on the purchase of a commercial vehicle is levied.

Variable taxes and levies. These taxes depend on the intensity of vehicle use and are taxes on vehicle use. The payment of the taxes is viewed as the price paid for using the road network. In Russia, variable taxes include fuel excise duties and a toll charge levied on lorries weighing over 12 tonnes for using federal motorways.

Taxes on financial results. These are taxes on business activities. They are viewed as the tax price that is paid for running a road haulage business. In Russia, taxes on financial results include income tax, the single tax on imputed income, and the road haulage operator license fee (Litman, 2011).

### 3 METHODOLOGY

Under the proposed methodology, only obvious costs of owning and operating freight transport are quantifiable (Mayburov, 2015). To analyze the cost of ownership, we selected three truck models that account for almost 60 percent of the road freight fleet in Russia (Table 1 and 2).

Type	Payload capacity	Model	Share in vehicle fleet
light duty	1.4 t	GAZelle Next A21R22	27.1
medium duty	8.2 t	ISUZU FORWARD 12.0 NORMAL FSR90SL-NCUS	23.1
heavy duty	36.5 t	KAMAZ 6460RP L360	9.1

Table 1. Selection of road freight vehicles for calculating cost of ownership

No	Indicator	GAZelle Next A21R22	ISUZU FORWARD 12.0	KAMAZ 6460RP L360
1	Price, thousand RUB.	1,055	3,375	2,740
2	Fuel mileage, liter/100 km	10.3	16	55
3	Maximum engine power, horsepower	120	210	360
4	Engine	diesel	diesel	diesel
5	Depreciation, %	16	22	60

Table 2. Brief characteristics of the selected vehicles

To calculate the costs, we assume that an average mileage of a vehicle is equal to 60,000 km/year; the price of diesel fuel is RUB35.56/liter, including a fuel excise duty of RUB2.76/liter. The recycling fee is calculated on the basis of the baseline rate of RUB150,000 and the gross vehicle weight rating (over 20 tones - 4.79; 8 to 12 tones - 2.21; under 3.5 tones - 1.32).

The following assumptions provided a framework for calculating taxes on financial results of hauling business operations: (1) a business entity owns 10 vehicles; (2) as a rule, light duty vehicles are owned by self-employed individuals, the business license fee being the most suitable form of taxation for them;



(3) medium duty vehicles are owned by small businesses that are entitled for imputed taxation; (4) heavy duty vehicles are in most cases owned by companies that pay standard corporate taxes; (5) all taxes are calculated for the situation of a major industrial region.

The profit of haulage companies is calculated on the basis of the balanced financial results of shipping businesses in 2013 (RUB7.7bn), and the number of such companies (609,000) (that is, the financial result per entity was RUB12,643/year). When calculating the federal road toll (RUB3.5/km), we proceed from an assumption that federal motorways account for 70 percent of the total mileage of heavy duty vehicles. To calculate shipping volumes we use the load factor of 0.85 and the load mileage rate of 0.82.

The development of the transportation system has given rise and subsequently aggravated problems that are similar to those being experienced by the transportation systems of European countries.

Today, the priority of transportation system development in Russia is to strike the balance between a high level of mobility that is provided by road cargo transport and offsetting external costs of transport use.

#### 4 ANALYSIS OF THE COST OF OWNING A ROAD FREIGHT VEHICLE

Tables 3 and 4 give an overview of the results of calculating the average annual cost of owning and operating a road freight vehicle.

The structure of some expenses broken down by type of costs is shown in Table 4.

Indicator	GAZ	ISUZU	KamAZ
Depreciation	56.27	247.50	548.00
recycling fee included	10.56	24.31	143.70
VAT	8.58	37,75	83,59
registration fee (yearly average)	1.00	1.00	1.00
Fuel	219.76	341.38	1,173.48
excise duty included	17.06	26.50	91.08
Mandatory and voluntary insurance	46.00	190,00	124.00
Taxes, duties and other levies	1.40	4.01	20.23
vehicle tax included	1.40	4.01	20.23
Maintenance	33.00	51.00	90.00
Other expenses	10.55	33.75	27.40
Federal road toll	0.00	0.00	147.00
TOTAL EXPENSES excluding taxes on financial results	366.98	867.64	2,130.11
Taxes on financial results of business operations:	58.1	77.7	25.3
TOTAL EXPENSES including taxes on financial results	425.08	945.31	2,155.40
taxes included, thousands of roubles.	96.70	171.24	364.89
Estimated tone-mileage, thousands of tons - km/year	58.548	342.924	1526.43
Unit expenses on freight vehicles, RUB/ton-km	7.26	2.76	1.41
taxes included, RUB/ ton-km	1.65	0.50	0.24

Table 3. *Cost of owning and commercially operating a freight vehicle, thousands of roubles/ year*

Indicator	GAZ	ISUZU	KamAZ
Depreciation	13.2	26.2	25.4
Fuel	51.7	36.1	54.4
Mandatory and voluntary insurance	10.8	20.1	5.8
Maintenance	7.8	5.4	4.2
Vehicle tax	0.3	0.4	0.9
Federal road toll	0	0	6.8
Taxes on financial results	13.7	8.2	1.2
Other expenses	2.5	3.6	1.3
TOTAL EXPENSES	100	100	100

Table 4. *Structure of vehicle ownership costs, %*

The analysis leads to a conclusion that the cost of fuel prevails in the cost of owning a road freight vehicle. For GAZ vans and KamAZ trucks the share of fuel expenses exceeds 50 percent. The share of mandatory and voluntary insurance tends to go down for heavier vehicles. The share of maintenance costs tends to fall even further for heavier vehicles: from 7.8 percent for a light duty vehicle to 4.3 percent for a heavy truck. Depreciation varies in reverse proportion to the gross vehicle weight rating. The share of depreciation in the cost of ownership grows from 13.2 percent for lighter vehicles to 25.4 percent for heavier vehicles. Other expenses, such as the cost of buying winter tires and other expendables needed for the day-to-day operation of a vehicle are insignificant and do not exceed 4 percent of the total ownership costs.

The efficiency of using vehicles with various load capacities is indicated by total costs per one ton-kilometer (in RUB), which is the cost of moving a ton of cargo one kilometer. The indicator drops for heavier vehicles: from RUB7.3 for light duty vehicles to RUB1.4 for heavy duty vehicles. Per unit costs of freight companies are another good indicator. It compares easily with corresponding prices charged by the companies. For example, the price of transporting a ton of bulky cargo for one km by road costs RUB4.3 in Russia, which is triple the actual per ton-km cost. A rough comparison of the indicator with theoretical estimations conducted in European countries indicated that it is much lower in Russia. For example, the cost of transporting one tonne of cargo over one km by truck is 4 to 30 times lower than marginal external costs, with the tax component in the costs that is meant to be the price paid for causing the externalities being still lower. The share of taxes in total per ton-mile costs is also lower for heavier vehicles: it goes down from RUB1.7 for light duty vehicles to RUB0.2 for heavy duty vehicles. We suppose that because of such a light tax burden there is still room for increasing the share to taxes in the cost of owning heavy duty trucks. It is still possible to further increase taxes even after the introduction of the Platon toll collection system that affects freight vehicles with a gross weight exceeding 12 tons.

## 5 ANALYSIS OF TAX BURDEN ON OWNERSHIP AND OPERATION OF ROAD FREIGHT TRANSPORT

The structure of various taxes in the cost of owning and commercial operation of road freight transport is outlined in Table 5. The analysis of the results shows that the tax burden on owning a freight vehicle is lower for heavier trucks. This is a pretty weird phenomenon because heavy duty vehicles generate a lot more negative externalities than lighter ones. For example, the Bridge Formula that is commonly used in the USA shows that a 36-tonne nine-axle heavy truck running at 120 km/h is 3,200 times more damaging to the road surface and bridges than a one- or two-tonne car. Consequently, the tax burden should increase in line with the payload capacity.

Indicator	GAZ	ISUZU	KamAZ
Total costs of owning and commercially using a freight vehicle	100.0	100.0	100.0
including taxes and other mandatory charges	22.8	18.1	16.9
fixed	5.1	7.1	4.6
variable	4.0	2.8	11.1
on financial results	13.7	8.2	1.2

Table 5. *Structure of taxes in ownership costs, %*

The share of fixed taxes exhibits practically no dependence on the payload capacity of the vehicle. The share of taxes on financial results goes down substantially along with an increase in payload capacity. Such a reverse correlation is completely illogical. It turns out that self-employed owners of light duty vehicles shoulder a heavier tax burden than haulage companies that use heavy duty vehicles. This happens because self-employed operators pay a fixed business license fee that does not depend on the actual volume of services provided. Haulage companies, by contrast, pay the tax on the profits they actually earn by providing haulage services. Only the share of variable taxes in costs grows in line with an increase in the payload capacity of vehicles. An additional federal motorway toll imposed on vehicles with a weight exceeding 12 tonnes is the only thing that creates the correct correlation. The introduction of the Platon toll collection system appears to be in line with European trends of levying tolls on the haulage industry, but the size of the fee poorly reflects marginal external costs. As the size of the fee only depends of the weight of the vehicle, it can, at least to some extent, compensate for wear and tear on the road network. The fee rates are, however, much lower than marginal external costs because rapid transition to the tolling system could lead a public outcry.

## CONCLUSION

The taxation of road freight transport in Russia needs improving. There should be a correlation between variable transport taxes and the amount of damage imposed by trucks on roads and the environment. The size of variable transport taxes should grow significantly in line with an increase in

the payload capacity. It is also necessary to improve taxation of the financial results of freight businesses. Currently, the taxation of financial results is distorted in favor of large haulage companies. A reform of the system of taxation of road cargo transport that is being conducted in Russia at the moment is in line with global trends and practices, but it has to be noted that the system should take better account of marginal external costs. The next stage of the vehicle taxation system in Russia should focus on refining external cost estimates by each key element, while attention to country-specific issues. As a result, a system of variable transport taxes should be created. At the same time, the user-pays principle should be applicable to all types of freight vehicles and private cars.

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## RELATIONSHIP QUALITY, COOPERATION AND PERFORMANCE: THE SPECIFIC CASE OF PORTUGUESE COMPANIES OPERATING IN ANGOLA

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### ABSTRACT

This research encompasses the main concepts of relationship marketing in order to develop a model that explains the different factors preceding the export performance of Portuguese companies operating in Angola; it particularly seeks to understand the relationship between exporters and their local intermediaries from a relationship point of view.

This study is particularly relevant because studies on emergent markets are scarce.

The conceptual model presented is based on the relationship marketing literature, specifically the Morgan-Hunt Model (1994), named *KMV (Key Mediating Variables)*.

It intends to analyse how trust influences both commitment and cooperation. Similarly, it examines how commitment influences cooperation. Finally, this study aims to analyse the association between cooperation and export performance based on the last and next three years.

Concerning the methodology adopted questionnaire and interviews that have been chosen. The study sampled 102 Portuguese companies at FILDA (International Fair of Luanda). Thirty questionnaires were fully completed and the data was analysed through SPSS. Meanwhile, some Portuguese companies' managers were interviewed so that questions related to «how» and «why» could be clarified.

All in all, it was possible to acknowledge a positive association amongst trust, commitment and cooperation. Likewise, it was confirmed that there is also a positive association between cooperation and export performance.

Suggestion for future research is analysis of matched pairs, that is, the Portuguese exporting companies and their distributors in Angola.

**Keywords:** *International marketing, relationship marketing, commitment-trust theory, trust, commitment, cooperation, export performance.*

## INTRODUCTION

In context of the global crisis, the Portuguese market is increasingly becoming a smaller market share for Portuguese companies, therefore it is necessary to take advantage of the installed capacity in Portuguese companies and explore new markets.

In order for production levels to return to its normal level because of the strong current crisis, in order to ensure Portuguese companies their survival, have been seeking new markets, such as the specific case of the Angolan market.

The choice of the Angolan market for this study is due to the fact that the country is outside the European Union and because Angola is the country to which Portuguese companies export more.

In this sense, the weight of Angola in the Portuguese economy has been increasing in recent years.

According to studies of the International Monetary Fund (2008), despite the international economical crisis, Angola is one of the countries with the highest potential for growth in the next ten to fifteen years.

A potential that many Portuguese companies recognize and are strengthening as demonstrated by the increase in the level of Portuguese exports, as stated above.

The Angolan market is a very specific market and trust is a core value in trade relations. We could say that without trust, no one comes to the deal.

An example is that Angolan companies are expecting that representatives from Portuguese companies will go to Angola to establish personal contacts.

Although this behavior goes against the establishment of a personal / business relationship, it will contribute positively to dispel any suspicions and develop a human contact between exporters and potential local intermediaries.

Trust is a concept that has been treated in the context of relationship marketing and constitutes the basis for this study. According to Abosag, Tynan & Lewis (2006) existing theories of relationship marketing have been developed and tested in predominantly social, cultural Anglo-Saxon, but is yet to be tested in other cultural contexts. The inclusion of Portugal and Angola meets this concern.

This study seeks to examine the extent to which the quality of the relationship established between Portuguese companies and intermediaries in Angola contributes to increased cooperation between exporters and intermediaries and in turn, how this is reflected in Performance Export of Portuguese companies to Angola both from the perspective of the past, as well as the future.

In short this research is highly relevant since, Portuguese companies are increasingly not confined only to the domestic market but looking for new markets to ensure their survival.

Thus, it becomes important to analyze the quality and the cooperation in the relationship between the Portuguese exporting companies and their intermediaries in Angola, as well as their impact on export

performance. For this purpose, we resort to a part of the Morgan & Hunt model (1994) by designating KMV (Key Mediating Variable) (Morgan & Hunt, 1994) including the concepts that explain the commitment, trust and cooperation.

The analysis of this issue is relevant to understand how exporting companies should have access to international markets for direct export route and to evaluate the network of relationships and inter-relationships they establish with their intermediaries located in the destination country.

## LITERATURE REVIEW

### **The concept of internationalization**

There are various international settings. According to Meyer (1996), internationalization is a process by which a company increases its level of value-added activities outside their country of origin. However, according to Calof and Beamish (1995), it is the process of adapting the company's operations (strategic, structure, resources, etc.) to international environments. From the point of view of Freire (1997), the internationalization of a company consists of the extension of its product-market strategies and vertical integration to other countries, resulting in a full or partial replication of operational chain. As for Chetty & Campbell-Hunt (2001), internationalization cannot be seen only as a process of "growing progression" but as a phenomenon with setbacks, in which companies can be "de-internationalize" or leaving to work a product or giving up foreign direct investment (FDI) and refocusing on export mode reducing (or stopping) its international activities. For Fernández & Nieto (2005), this is the most complex strategy that a company can implement, since its entire supply chain is geared to particular market.

When a company decides to internationalize itself, the first step is to study and choose the target market. Later they need to determine the best way to enter that market. This is a critical decision in international marketing (Viana et al., 2005).

Selecting the correct input mode is essential because a bad decision at this level leads to possible losses and the company is liable to cause an unfavorable image with its potential consumers and, consequently, damage the growth potential (Viana et al., 2005). This implies that additional efforts will be required to renew its image.

Also according to these authors the most common way for a company to develop its international business is export, which can be considered direct or indirect. With regards to indirect export, the company sells through an intermediary located in the country of origin which could be active or casual. Casual export occurs from time to time to take advantage of a possible request. The costs of direct export are higher than that of indirect export. However, both forms of export, direct and

indirect, are not mutually exclusive since the company can export directly to the most important markets and indirectly to the less significant markets (Viana et al., 2005).

Since the direct export may explain the existence of a local intermediary, it is essential to determine the nature of the relationship that the company establishes therewith. In this sense, it was decided to include relationship marketing concept that refers to all commercial activities directed to establish, develop and maintain the success of relational exchange (Morgan & Hunt, 1994).

Marketing relationship according to Miguel-Romero, Capture-Ginger and Adame-Sánchez (2014) aims to generate profitable relationships in the long run, between partners. To Brito and Lancaster, 2014, relationship marketing manages relationships and their goals are loyal customers, monetize them and create a customer base, while the transactional marketing manages resources and its sales objectives, product profitability and market share. The Relationship Marketing brings stability and reduced uncertainty in business, acting as a barrier to entry for competitors and maintaining a stable and solid base (Alexander and Colgate, 2000 cited by Gupta and Sahu, 2012).

According to this, Grönroos (1994) states that the relationship marketing aims to "establish, maintain and improve relationships with customers and other partners, as well as maintenance of business profit, so that all the objectives of all the parties are satisfied." So there is a mutual and reciprocal exchange of keeping promises.

One of the templates referenced in relationship marketing literature referred to as KMV model (Mediating Key Variables) has been proposed by Morgan and Hunt (1994). According to these authors, relationship marketing implies a positive relationship between commitment and trust.

The commitment in a relationship is defined as a persistent desire to maintain a valued relationship "(Morgan & Hunt, 1994). So the commitment exists only when the relationship is considered important.

The theory of social change explains the causal relationship through the principle of reciprocity, which holds that "distrust generates suspicion" and as such, it also serves to reduce the commitment and change in the relationship leads to operation of another barter short deadline (Morgan & Hunt, 1994).

Trust is the major determinant of relationship commitment (Morgan & Hunt, 1994). According to Morgan & Hunt (1994) is the expectation of lower total costs that produces a commitment relationship, thus have an effect on the customer-supplier relationship.

Partners in turn, should avoid opportunistic behavior that could harm either party.

Assuming that the commitment and trust are the key to a relationship, how can these characteristics be developed?

These develop when companies focus on relations, providing resources, opportunities and profits that are higher than the offer made by other parties; maintain high standards of values and allying



themselves to other partners with similar values; communicate important information including expectations, marketing intelligence, and assessments of the performance of the partners; avoid taking advantage of their partners in a way detrimental to them. These actions enable companies and their networks, have a competitive advantage over their competitors and their networks in the global market.

Morgan & Hunt (1994) tested the KMV model under the relations of commitment and trust in the context encouraged by a distribution channel. However, the authors concluded that there is still much to do.

It therefore concludes that the theory of Morgan & Hunt (1994) is assumed to be relevant in explaining the relationship between exporters and local intermediaries based on the concepts of trust (trust) and commitment (commitment). The key concepts for the development of activities - business in establishing, developing and maintaining successful relational exchanges.

In this sense, it can be concluded that the relational exchanges successfully contribute to the cooperation between the parties involved, and this in turn has repercussions on export performance of the parties.

#### **Relationship between trust and organizational commitment.**

In relationship marketing trust has been recognized as an important concept (Lagrosen, S. and Lagrosen, Y. 2012). The authors, Morgan & Hunt (1994) theorize that the success of relationship marketing requires commitment and trust relationship. The purpose of this relationship is to gain preferred supplier position (being developed trust) over a period of time. From the point of view of these same authors, the commitment reduces total costs.

Competition, especially in the global market requires companies to continually look for products, processes and technologies that add value to their own offerings. In this sense, partnerships that offer superior benefits are valued thus, companies undertake to create, develop and maintain relationships with partners that when operating together, can offer superior benefits compared to other options. In short, the beneficial relationships are highly valued as they contribute to higher profitability and customer satisfaction.

There are some reasons that cause the decrease of trust. The opportunistic behavior occurs when there is self-interest on the part of one of the partners involved, a fact which results in decreased trust (Morgan & Hunt 1994).

These authors further state that opportunistic behavior and commitment ratio result in a decrease of trust ratio since the partners believe they can no longer trust each other. They also consider that the trust decreases with a partner uncertainty decision.

That is, if one partner is uncertain about the other partner's behavior, this fact alone leads to a decrease in trust in the same partner.

It is important to highlight the positive impact that triggers trust in relationships. The trust takes a partner to realize that future controversial episodes will be functional.

It is understood that by employee conflict, disagreements are resolved amicably therefore, helps prevent stagnation, stimulate interest, curiosity and provides a means by which the problems can find solutions, in the opinion of Morgan & Hunt (1994).

The results of Morgan & Hunt (1994) in their study reveal that trust influences how disagreements and arguments are perceived by partners.

That is, when trust is present, the parties perceive the conflict as functional conflicts. Thus, they can discuss problems openly, because they do not expect harmful actions from their partners.

The trust contributes to reduce the risk of opportunistic behavior on a long term relationship and therefore positively contributes to long-term exposure to the customer. In addition, the trust increases buyer confidence that the short-term injustices will be resolved and reduces transaction costs in exchange ratio (Ruiz-Molina and Gil-Saura, 2012).

Some authors analyzed the trust and commitment bearing in different countries.

According to Abosag et al. (2006), the trust and commitment drivers vary in different countries. Some studies have proven empirical evidence on the nature of the trust and commitment in different countries. These authors encountered that the perception of trust and commitment in Serbia is based on the social and cooperative aspect of the relationship because the culture of Serbia (affective dimension) is of a collective nature while in Croatia, trust and commitment are based on the economic relationship and self-realization (instrumental dimension).

In short, when trust and commitment are present, they produce results that improve the productivity and efficiency that result directly in cooperative behaviors that favor the success of relationship marketing which in turn lead to business success.

### **The relationship between cooperation and trust**

The theoretical arguments of this relationship are classified by Abosag et al. (2006), the trust is felt internally however, is manifested in external actions (behaviors) in the form of cooperation.

For Abosag et al. (2006), the theory of trust and commitment Morgan & Hunt (1994) introduced much cited aspects of relationship marketing. These authors argue that trust and commitment are the main variables that lead to building a relationship of "cooperation". Still with these authors, the growth of various forms of relationship is due to the trust which is essential to establishing cooperation relations.

When trust is established, businesses learn that the coordination of joint efforts will lead to results that the company could not reach if they acted only based on their own individual interest (Anderson & Narus, 1990 p. 45).

The functional conflict, that is, when the differences are resolved amicably, can enhance relationship marketing in productivity and should be seen as "just a part of doing business" (Anderson & Narus, 1990 p. 45). In this sense, it can be deduced that the functional conflict is beneficial in a relationship; thus being assured trust; the conflict itself is perceived as an integral part of the relationship and accordingly, lead to cooperation of the parties.

Aulakh et al. (1996) indicate an order of causality between trust and a cooperative orientation to the extent that trust allows the bilateral domain that meets individual goals for independent companies through joint achievements, shared beliefs, mutual interest and long-term benefits.

Using the prisoner's dilemma game, Rokkan et al. (2003) show that the expectation of future multiple interactions makes cooperation more attractive choice. Moreover, Heide & Wathne (2006) argue that in long-term relationships with high social content, the parties adopt systematic cooperation. Obadia (2008) defines commitment expectations as the belief of the parties that the relationship is stable and safe (Johnson et al., 2004). As mentioned by Obadia (2008), trust enables companies to have access to crucial information needed to cooperate.

In addition, trust and commitment encourages companies to participate in idiosyncratic investments cooperation requires.

Finally, the companies involved in a long-term relationship tend to seek mutual goals (Heide, 1994), which summarizes a cooperative norm.

### **The relationship between commitment and cooperation.**

Secondly, Obadia (2008) stresses that the impact of cooperation in organizational performance is based on social relations; these are based on the understanding that the partners get involved in a long-term commitment. Gilliland & Bello (2002) state that in this type of relationship, the social goals are more important than economic objectives. Therefore, Heide (1994, p. 77) adds that the parties "renounce rewards present in the base of a long-term equity anticipation".

In case of low economic performance, such partners respond by strengthening ties and fighting for the survival of a long-term relationship.

In the case of exporters and importers, there is a special incentive to cooperate to revive a failed relationship: both companies are aware that they will face high transaction costs ex ante, and start looking for a new partner.

In reality, when the switching costs are high, the partners tend to be more concerned with the relationships (Dwyer et al., 1987).

To Ambler and Styles (2000), cooperation between partners allows an intensive exchange of valuable information and to solve problems together.

Thus, the importer knows he can count on the exporter for help in case of difficulties (Obadia, 2008) and vice versa. On the other hand, the cooperation implies that the exporter and importer have a set of common objectives and understand that they can only reach them working together (Bello et al., 2003). Thus, the importer enjoys all the benefits you can take from the exporter's suggestions and tends to receive them and vice versa is also true. If the partners do not raise important issues, it is likely that problems are not solved.

One can even say that an insufficient level of surveillance from distributor (importer) takes the seller (exporter) to overlook potential problems which prevents the vendor from proposing appropriate solutions to these same problems. Furthermore, the benefits of cooperation are based on the two parts pro activity.

Each party proposes its solutions to the many problems that must be solved together.

If socialization process results in a "fusion" which causes both partners think and act the same way, the advantage of being two separate entities to own ideas and experiments disappears.

This decreases the quality of debate among trading partners and, in turn, leads to a lower quality of cooperation. According Obadia (2008), cooperative standard plays an essential role when there is adversity because the parties determine how to solve problems together.

The partners believe that the cooperation is crucial. Each partner offers the most effective solutions to deal with the problem. In short, according to Obadia (2008), in the case of low performance, more effective cooperation emerges. Palmatier et al. (2007) states that the literature has shown that various forms of adversity can strengthen the effect of relational standards.

In short, we can thus conclude that there is a positive relationship between trust and commitment just as there is a positive relationship between trust and cooperation.

There is also a positive relationship between commitment and cooperation on the basis of Morgan & Hunt (1994).

### **Cooperation and export performance**

There are several authors exploring the importance of cooperation under the export performance. To Obadia, (2008), the relationship between cooperation and performance is important regardless of the performance context. Exporters can improve the performance of its international activity and promoting the development of behavioral norms.

This means that a standard cooperation helps coordinate the behavior of partners in the international context.

The effectiveness of such a rule increases in difficult times, which support the idea that cooperation can be seen as a tool (Obadia, 2008).

Unlike previous studies on the relationship between exporters and importers, Obadia (2008) conceptualize and operationalize cooperation as a norm of behavior.

This new conception of cooperation makes it possible to assess the impact on the importer's distribution Performance and what the conditions of success of the export company are. It is revealed that the cooperation can be used to improve non-commercial relations.

Thus, the cooperation can be an alternative to expensive formal management mechanisms and time-consuming searches for new foreign representatives.

To be the source that sustains the performance above average, the funds must meet three criteria. Must be: (1) valuable; buyers are willing to buy the output capabilities at significantly higher prices than its costs (2) rare; so that buyers can't go back to the competitors with the same resources or substitutes (3) inimitable; which means it is difficult for competitors, to either emulate or acquire the resources (Combs & Ketchen, 1999). Moreover, the ability of a resource to meet these criteria depends mainly on industry characteristics affecting the value of a resource (Amit & Schoemaker, 1993).

Brand reputation, for example, may be more valuable in experiential service industries than in industries where quality can be determined before buying (Nayyar, 1990). Features that are rare, inimitable and entitled to create value "strategic resources" (Chi, 1994).

Based on Combs & Ketchen (1999) cooperation between companies offers this kind of incentive because the rewards of cooperation partners are largely dependent on their own performance results.

Secondly, Obadia (2008) in the context of casual exports believes it is worth investigating if the cooperation works only when the performance is good or whether it can be effective even when the past economic performance is low.

In short, the trust and commitment foster the development of a cooperative norm which in turn improves the performance of importers' distribution (Obadia, 2008).

Based on what was said, then it presents the assumptions and the conceptual model guiding this research work.

Based to the literature presented above, the working hypotheses are as follows:

H1: The greater the trust between the exporter and agent / distributor the greater the commitment tends to be.

H2: The greater the trust between the exporter and agent / distributor the higher cooperation tends to be.

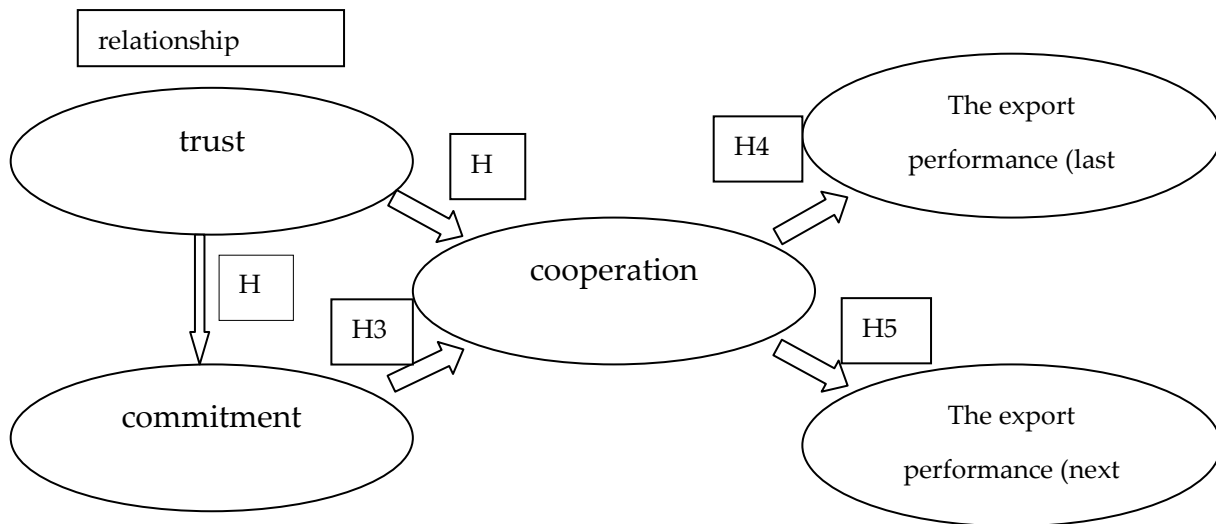
H3: The greater the commitment between the exporter and agent / distributor the higher cooperation tends to be.

H4: The higher the cooperation between the exporter and agent / distributor the more likely the export performance tends to be.

H5: The greater the cooperation between the exporter and agent / distributor the more likely the export performance tends to be.

These hypotheses are represented in the following model (Figure 1).

**Figure 1. Conceptual Model**



## METHODOLOGY AND DESIGN STUDY

As regards the "Study design", this research is highly exploratory but quantitative. However, given the nature of the object under examination, it will also use the qualitative nature of methodologies including interviews based on unstructured questionnaires.

The questionnaire will be aimed at analyzing the association between a set of independent and dependent variables. The geographical context of the state, as mentioned, is the Angolan market. Given the nature of this study (cross-cultural), it will take into account the specific nature of that market.

Given the apparent difficulty of collecting data, a material event where there are the most Portuguese companies present including an international trade fair (FILDA- Luanda International Fair, 2009) were identified. The population in question shall consist of all Portuguese companies exporting to the Angolan market. The sampling process will be for convenience since only companies present in Angola FILDA will be considered for this study.

With regard to the proposed theme, our belief is that the relationship marketing area is a scarce study comparing different international contexts. Therefore, our goal at the time of this study is to fill this gap in research since there is no scientific study to examine the quality of the relationship, cooperation and performance in the specific case of the Portuguese companies operating in Angola.

The purpose of this study is to investigate and contribute to a better understanding of this issue that has become increasingly important.

See in appendices 1 the measuring instrument development and the operationalization of concepts adopted in this study and in appendices 2 the Interview guide (exporters vs. agents / distributors).

### **Samples and data collection procedures**

The questionnaires were applied directly to a population of 102 Portuguese companies that were presented at the International Fair of Luanda - Angola; FILDA 2009; 14-19 of July 2009 under the flag of Portugal.

Of these 102, 30 valid questionnaires were given, which corresponds to a response rate of 30/102 (20.4%) which is acceptable for such a study.

Of these 30 questionnaires, it was decided to eliminate 9 for not meeting the criteria stipulated by the investigator as regards the existence of a relationship with a local intermediary.

After the data collection, we proceeded to the preparation and analysis of the data which were then entered into the SPSS statistical program, presented the methodology and research design, then proceeded to the analysis and discussion of the data.

## DISCUSSION AND ANALYSIS OF DATA

### Sample profile

There is a range of activities (NACE) in the study sample, although there is a clear predominance of the industrial sector companies.

Almost 67% of the key clients in international markets of companies in the sample develop a wholesale business.

Regarding the percentage of sales in international markets 38.1% ranges from 5% to 25%; 23.8% sell between 26% to 50%; 19% is from 51% to 75%.

Regarding the percentage of sales in international markets, 38.1% ranges from 5% to 25%; 23.8% sell between 26% to 50%; 19% is from 51% to 75%.

Finally, 4.8% have a percentage of less than 5% sales, an identical value to companies that have a percentage of sales from 76% to 95%. Similar value is presented by companies that have a higher percentage of sales up to 96%. Finally, 4.8% of companies do not know and / or do not answer the question.

In summary, almost 24% of companies have a percentage of sales for international markets exceeding 50%, which means a high degree of internationalization.

With regard to direct export, the sample shows the following results: 47.6% of the sample confirm that this type of export is very significant; 23.8% are indifferent; 9.5% of this type of export is something significant; with similar percentage this type of export being nothing significant; 4.8% is negligible. Finally, 4.8% did not respond or did not know. In short, up to 57.1% of the companies' direct export is something meaningful and significant.

In regards to the indirect export, this sample shows the following results: 38.1% of the sample confirms that this type of export is something meaningful; 19% of companies stated that it is very significant. In contrast, 14.3% of companies stated that this type of export is negligible and 4.8% is nothing significant. Finally, 4.8% did not respond or did not know.

In short, for 23.8% of companies, the indirect export is something meaningful and significant.

### Preliminary analysis of the concepts and reliability of measurement scales.

Through the reliability of the analysis, the internal consistency of the scales or the degree of homogeneity of the items making up the scales of measurement were examined and the extent to which it was free of random error was found<sup>1</sup>.

The Cronbach's alpha ( $\alpha$ ), is a commonly applied estimation (Hair et al., 2006) to analyze the degree of internal consistency of an aggregate scale, based on the average correlation between pairs of

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<sup>1</sup> It should be noted that the term of validity reliability differs, the latter being wider, indicating the degree in which the measurement process is free of both systematic errors like random errors.



indicators<sup>1</sup>. It proceeded to an item-total correlation analysis corrected, in which the correlation coefficients between each item and the corrected score (group score minus the score of the item) of their group were used. Thus, in order to ensure internal consistency and homogeneity of the respective dimensions of each scale, items that in aggregate have a low correlation with the total score (ie,  $r < 0.25$ ) were eliminated (Nunnally, 1978).

These items show from the start a low degree of internal consistency, it means that it does not have a covariance that is consistent with the total score or other items.

Those whose correlation, were less than 0.25, or whose elimination would allow obtaining a considerably higher alpha were removed from the analysis items.

## **Discussion of Results**

### **Descriptive data analysis (Average and Standard Deviation)**

With regard to trust dimension, as we can see, the item that has a higher Average is: "It's a correlation based on high integrity" ( $M = 4.30$ ;  $SD = 0.64$ ). In contrast, one that has a lower mean is "Our main agent does not take advantage (or advantage) of our company if they have that opportunity" ( $M = 3.53$ ;  $SD = 1.16$ ).

With regard to commitment dimension, the item having a higher average is "This correlation is very important to us" ( $M = 4.64$ ,  $SD = 0.57$ ). In contrast, one that has a lower mean is "This correlation is almost like belonging to a family" ( $M = 3.42$ ;  $SD = 1.11$ ).

With regard to cooperation dimension, the item that has a higher Average is: "Strategic information marketing (eg new products, market trends, sources of supply.)" ( $M = 4.05$ ;  $SD = 0.74$  ). On the other hand, one that has a lower mean is "Inventory Policy" ( $M = 2.71$ ;  $SD = 1.37$ ).

With regard to Performance (last 3 years) size, the item that has a higher Average is: "New Products" ( $M = 4.15$ ;  $SD = 0.65$ ). On the other hand, one that has a lower mean is "Market Share" ( $M = 3.21$ ;  $SD = 0.93$ ).

As regards the size Performance (next 3 years), the item having a higher average is "Volume" ( $M = 2.8$ ;  $SD = 0.51$ ). On the other hand, one that has a lower mean is "Profit" ( $M = 2.45$ ;  $SD = 0.74$ ).

### **Composite model variables**

As regards the composite variables from the model, the impairment variable is one that has a higher Average (Mean = 4.23): 1 = None arrangement; 5 = strongly agree.

In contrast the performance variable (future), it is one that has a lower average (mean = 2.69) in a Likert scale of 1 to 5 where 1 = very bad and 5 = very good.

## **Discussion of Data**

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<sup>1</sup> However, as noted Hair et al. (2006), the limitation of this measure lies in the fact that there is a distortion related to the number of indicators of an aggregate scale. Scales aggregated with the largest number of indicators tend to report higher alphas.

To achieve the proposed objectives in this work, it is important to analyze how the different concepts of trust, commitment, cooperation, performance (past) and performance (future) correlate with each other (Table 1).

**Tabel 1-** Matrix Correlations

	Alfa	1	2	3	4	
1. Trust	0.84	1				
2. Commitment	0.77	0.81**	1			
3. Cooperation	0.65	0.37	0.486*	1		
4. Performance ( <i>last</i> )	0.84	0.072	0.23	0.58**	1	
5. Performance ( <i>future</i> ) <sup>b</sup>	0.91	-0.23	-0.20	-0.52 *	-0.31 <sup>a</sup>	1

Note: \*\*  $p < 0.01$  (2-tailed); \*  $p < 0.05$  (2-tailed); <sup>b</sup> was used 7 point scale (*Likert-scale*)

Based on the Pearson correlations the data reveal that, despite the fact that we are in the presence of a small sample size, there is a fairly strong positive correlation between variables as proposed in our model.

With regard to the events set forth in the study, one could say that:

The first hypothesis holds that: the greater the trust between the exporter and agent / distributor the greater the commitment tends to be. You can see that there is indeed a strong positive and significant correlation between these two variables ( $r = 0.81$ ;  $p < 0.01$ ) suggesting that there is a high quality in the correlation between exporters and their local intermediaries. In this sense, we can say that Hypothesis 1 is supported by the data.

This result can be supported by the following interview which states that:

"It's a tough little structured market where trust is critical, crucial." (...) "Shared values are the values of culture, mentalities. Understanding is easier between the Portuguese and the Angolans than among Angolans and the Irish. (...) Usually companies that use letter of credit have the guarantee that the customer will pay but if they do not pay, the bank pays all the same. I already know the company for X years then I no longer need a letter of credit value upon order. Letter of credit; advance; payment on delivery depends from company to company. "

However, as we can see from the interviews, there is great suspicion as regards the financial relationship, so it is necessary to strengthen the social dimension of the correlation to minimize the negative impacts resulting from the failure to collect. As regards social relations, there are shared values that are the culture of values, mentalities. In short, although there is trust in the affective / social does not mean that there are no bank guarantees for the fulfillment of financial operations.

With regard to the second hypothesis, it argues that the greater the trust between the exporter and agent / distributor the higher cooperation tends to be.

Data for this association have a non-significant positive correlation to the level of significance of 5% ( $r = 0.37$ ,  $p < 0.09$ ).

Based on this assumption, we have decided to partially confirm this hypothesis. This result can, however, be supported by the following interview:

As regards the shared values, this is highly variable. Still, "the difficulties encountered in Angola arouse a survival spirit that tends to devalue Branding values that should be important factors of brand differentiation."

As for the commitment, it is also variable. Some importers "show a greater ability to meet targets and maintain regularity in the market. Still, external stressors (port difficulties, logistics, customs and foreign exchange) often provide adequate justification for failing commitments."

Finally, with regard to cooperation, it "also varies widely and directly resulting from the two previous."

This is confirmed by the interview that follows:

"Cooperation towards the Portuguese company that comes here (Angola): Portuguese companies sell (mobile phones) to an Angolan company. The Angolan company says "I want exclusivity." The Portuguese company says "I will not give you exclusivity, I will sell it to you, but if a company wants to buy in Lobito or Luanda, we will sell it to them too".

This initiative can be from Angolan companies or Portuguese companies. "I want exclusivity."

Usually Portuguese companies prefer to sell as much as possible here and there. Especially because there is a lot competition between importers and which is good, because they want to sell more of their product."

We can thus deduce from this statement that the cooperation is due to the commitment as well as shared values.

As for Hypothesis 3, this is based on the assumption that the higher the compromise between the exporter and the largest player the higher the cooperation tends to be. The data for this combination show a significant positive correlation considering a significance level of 0.05 ( $r = 0.48$ ;  $p < 0.05$ ).

The confirmation of the hypothesis can also be verified through the interview when the respondent states that "cop (cooperation) - It is also very variable and directly resulting from the two previous (Co (commitment); S (shared values))."

As for Hypothesis 4, this is based on the assumption that the higher the cooperation between the exporter and the largest agent the higher the export performance (last 3 years) tends to be.

The data for this combination show a significant positive correlation considering a significance level of 0.05 ( $r = 0.58$ ;  $p < 0.05$ ).

Finally, Hypothesis 5 is also based on the assumption that the higher the cooperation between the exporter and the largest agent the higher the export performance (last 3 years) tends to be. Interestingly, the data for this association have a significant negative correlation considering a significance level of 0.05 ( $r = -0.52$ ;  $p < 0.05$ ). This result is particularly interesting in that future expectations of Portuguese entrepreneurs are relatively low in relation to the performance of their companies. Table 2 systematizes the results obtained in this study.

**Tabela 2-** Validation of Hypotheses

Hypotheses	Validation
<b>H1:</b> The greater the trust between the exporter and agent / distributor the greater the commitment tends to be.	Supported by the data
<b>H2:</b> The greater the trust between the exporter and agent / distributor the higher the cooperation tends to be.	Partially supported by the data
<b>H3:</b> The greater the commitment between the exporter and agent / distributor the higher the cooperation tends to be.	Supported by the data
<b>H4:</b> The greater the cooperation between the exporter and agent / distributor the more likely the export performance (last three years) tends to be.	Supported by the data
<b>H5:</b> The greater the cooperation between the exporter and agent / distributor the more likely the export performance (last three years) tends to be.	Supported by the data

The analysis and discussion of the data, the analysis of the findings and implications of the study were presented.

## CONCLUSIONS AND STUDY IMPLICATIONS

As it is with this research, the purpose of this article is to analyze how the different concepts are correlated with each other, ie the trust, commitment, cooperation and export performance (last and next three years).

The purpose of this study is to contribute to a better understanding of relationship quality through trust and commitment which in turn influence the cooperation and therefore the export performance (last and next three years) of Portuguese companies operating in Angola.

That is, how trust influences the commitment and how to influence the trust cooperation. In turn, how they influence commitment to cooperation was analyzed. Finally, how cooperation influences the performance Export was examined.

This study had revealed that there is a strong positive and significant correlation between trust and commitment suggesting that there is a high quality in the relationship between exporters and their local intermediaries.

The data also confirms that there is a strong positive and significant correlation between commitment and cooperation.

This is particularly interesting in the Angolan market owing to special factors resulting from social relations between exporters and local intermediaries. As it can be seen in some interviews carried out, the "bonus system" is a constant in Angola.

On the other hand, the data also confirms that there is no significant positive correlation between trust and cooperation. That is, the hypothesis 2 is partially confirmed.

The study data also reveals that there is a strong positive and significant correlation between the cooperation and export performance (last 3 years).

On the other hand, the data also confirms that there is a strong negative correlation between the cooperation and export performance (next 3 years). This result is interesting in that it indicates a certain distrust / uncertainty about the future.

In short, the analysis of the data allows us to conclude that only the hypothesis 2 is partially confirmed, that is, it maintains that the greater the trust between the exporter and agent / distributor the higher the cooperation tends to be. The remaining hypotheses are validated in its entirety by the data obtained.

Regarding suggestions for future researches, this work can suggest the necessity to improve the relationship between the exporters and the local intermediaries in a longitudinal perspective. This research would make a dynamic analysis of the behavior of the Portuguese companies operating in Angola.

The use of a wide and longitudinal sample is certainly one of the assets of the study.

A business relationship involves two parties, and the current research only used data collected from a single side, from Portuguese exporters. So, suggestion for future research is analysis of matched pairs, that is, the Portuguese exporting companies and their distributors in Angola.

Therefore we can suggest an analysis aiming to assess both sides and extend it geographically to other countries. So, other export countries that might be relevant for further investigations are Mozambique and Brazil.

The presented conceptual method will only win and will be enriched if new values are added to it.

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## APPENDICES

### APPENDICES 1

#### Measuring instrument development

As mentioned, the quantitative study design was based on a survey questionnaire. It is a cheaper method to quantify and collect a plurality of variables, has low cost; achieves a large geographically dispersed population, confers a greater degree of freedom and time to the respondent, the possibility of happen distortion is smaller, allows to obtain often surface data and more detailed data can be obtained with open questions (Barañano 2008; Lakatos, 1991).

However, it is important to note that the use of the questionnaire also has some drawbacks of which the most important is the low response rate. The questionnaire development was not only based on the contribution of exploratory interviews, but also on the relevant literature.

In order to evaluate the questionnaire issues, a pre test / pilot test by three academic and two businessmen / general managers who suggested some adjustments or adaptations making it more noticeable and adapted to the reality of the Portuguese companies and agents / distributors located in the Angolan market was conducted.

The structure of the questionnaire and your organization is a task of the utmost relevance since it must contain the appropriate questions for collecting the information that will be needed to solve a particular problem under study. Similarly, the issues should be linked consistently by different topics under review.

#### Operationalization of concepts adopted in this study

Most of the concepts used in this study were based on the work of Morgan & Hunt (1994). These variables were measured on a scale of 5-point Likert (1 = Nothing agreement; 5 = strongly agree).

#### Trust

##### Items:

- It's A relationship in which there is not always existing trust;
- It's A perfectly honest and truthful relationship;
- It's A relationship based on loyalty;
- It's A relationship based on what is actually correct;
- It's A relationship based on sincerity;
- It's A relationship based on high trust;
- It's A relationship based on high integrity;



- Our Main agent does not take advantage (or advantage) of our company if they have the opportunity;
- Our Main agent scrupulously keeps the established promises

### **Commitment**

#### Items:

- This Relationship involves a high involvement / commitment on our part;
- This Relationship is very important to us;
- This Relationship is negligible;
- It's Something the company intends to maintain indefinitely;
- This Relationship is almost like belonging to a family;
- It's Something with which the company really cares about;
- It looks like the company devotes its maximum effort.

### **Cooperation**

#### Items:

- Advertising / Joint promotion on a base / regional;
  - Politics Return of defective products;
  - Politics Inventory;
  - Politics Discounts;
  - Information Strategic marketing (e.g. new products, market trends;. Supply sources);
- Company -Collaborators are sent from the country to support the main agents and / or distributors.

As regards the variable **export performance** was based on input from Sousa & Lopez-Martinez & rabbit (2008).

#### Items:

- Volume Exports;
- Growth In export sales;
- Profits Arising from export activity;
- Market share;
- Growth Market share through exports;
- Success of New products.

A scale of 5-point Likert (1 = Nothing agreement; 5 = strongly agree) was used to measure the variable export performance in the last three years. In what refers to the export performance for the next three years, a range of 3-point Likert (1 = Worsen; 2 = Maintain and 3 = Improve) was used.

In terms of data collection, the questionnaire was supplemented with interviews in order to allow a better response to the study questions.

## **APPENDICES 2**

### **Interview guide (exporters vs. agents / distributors)**

- 1) Generally where is the main form of access to the Angolan market by Portuguese companies?
- 2) In the case of opting for export, is it often the use of agents / local distributors?
  - 2.1) How do you establish the choice of these agents / local distributors?
  - 3) Is the identification of the most appropriate agents / local distributors for the distribution of products in the target market done through the AICEP?
- 4) How would you characterize the relationship between agents / local distributors and Portuguese companies in the following dimensions: trust (t), shared values (sv), commitment (co) and cooperation (cop), communication (com) (..)
- 5) What are the main problems that occur when there is a break in the contractual relationship between export companies and agents / local distributors?

## A NEW PUBLIC MANAGEMENT APPROACH TO PPP NORMS

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### ABSTRACT

This paper aims at highlighting the concrete legal and managerial relationship between New Public Management (NPM) and the Public-Private Partnership (PPP). The prevailed School of Thought in the capitalist world, the last decades, consists in the NPM approach to the public sector. Institutional PPP has to do with companies created by public and private investors or with public enterprises partially privatized. A more recent innovation has to do with the PPP contract model, included in the framework of the contracting out phenomenon, whose main alternative forms are concession contracts and the PPP ones. PPP contract is a type of long-term formal contract between the public sector and the private one, based on an important risk allocation for various scopes, consisting either in technical works or in provision of services or in both. PPP not only exemplifies NPM but it is strongly related to the notion of ethics within the state system of values, let alone the fact that it is used almost exclusively for non reciprocal scopes. However, even this innovation is not exempted from various problems.

**Keywords:** *Concession contracts, Contracting out, Gross National Product (GNP), Innovation, New Public Management (NPM), Norms, Public – Private Partnership (PPP) Law, Special Purpose Vehicle (SPV), Value for money*

### INTRODUCTION: PPP ALTERNATIVES IN THE NPM CONTEXT

This paper aims at highlighting the concrete legal and managerial relationship between New Public Management (NPM) and the Public-Private Partnership (PPP). The prevailed School of Thought in the capitalist world, the last decades, consists in the NPM approach to the public sector. One of its tools is the PPP, whose forms are at least the following:

- the “institutional PPP”, which has to do with the organizational aspect of entrepreneurship of the public carriers: it is about companies created by public and private investors or public enterprises partially privatized.
- the PPP model of public contracts, regulated by national legislative norms.

It would be interesting to analyze the relationship between the PPP contract norms, for the state and the wider public sector, and NPM.

## THE NPM SCHOOL OF THOUGHT

Theoreticians periodically expressed the need for the public sector to focus on the principles of productivity, efficiency and control (G.A Hodge, C. Greve, & A.E Boardman, 2011). The development of new theoretical power, known as the New Public Management NPM, emerged in the 1980s and 1990. This power seems to redefine the role of market forces (input-oriented management styles by market). (Walzer & Jacobs, 1998, Bult-Spiering & Dewulf, 2006).

The theory of the New Public Management (NPM) was born in the UK in the early 1980s (although the theoretical origins are earlier). The Conservative government of Margaret Hilda Thatcher became the first to engage actions of private individuals in public projects, by reducing the state budget expenditures. Oliver and Drewry (1996) support that the years *“when Margaret Thatcher became the prime minister have been particularly associated with radical programmes to reform public services – both substantively, in terms of the nature and range of services provided by the state, and institutionally, in terms of the way in which service provision is organized and funded”*.

From this reform resulted the development of an innovative for its time tool of cooperation between the private sector and the public one, known as Private Finance Initiative (PFI). Specifically, the Government of Prime Minister John Major introduced PFI in November 1992 to cope with economic crisis. Realizing that the State had lost the ability to solve economic problems by its own, Major decided “to put into the game” private partners, ruled by commercial concepts and not necessarily by the public values that the state is supposed to ensure (Bakali & Maniatis, 2013).

Primarily the adoption of NPM is due to the influence of three factors: the pressure in the economic level, the high-level political commitment to change and a set of ideas relevant to the design of change (Borins, 2002).

NPM is based on two tenets: a) limiting the differences between private and public sector, and b) changing the mode of operation of public organizations on the commitment to the rules to their orientation to results (Hood, 1995).

The OECD also supports the trend of international convergence in a "reformer Joint Program" and promotes the adoption of the principles of NPM in all European Union members (OECD, 1995).

In contemporary international reality, the public sector modernization and the NPM are common issues in public administration and characterized by elements, such as inter alia that each unit must have a manager and ensure unity of command whilst, competition should exist between the state and the private sector public (Osborne & Gaebler, 1992).

These principles are connected with the provision of services in a universe dominated by the tendency to limit funding and reduce costs through internal economies, in the context of the urgent need for a more effective response to political and social changes.

Nowadays, public organizations that implement NPM are judged on their results. The main features that distinguish NPM from the traditional management consist in extroverted stance towards the citizens – customers, to improve the quality of services. The focus is on:

- *the effectiveness*
- *the efficiency* (associated with funding and the results obtained) and
- *the economics of administrative actions*: here NPM emphasizes economics, expressing its evaluation of economic costs relative to the benefits and the estimated cost in terms of efficacy (Michalopoulos, 2003 & Bourandas 2002 & Karkatsoulis, 2001).

NPM in the case of PPP examines the trend relevant to the authorities and the private sector values, including the privatization of public bodies, the award - through contracts and agreements – of public service to private organizations, therefore through contracting out (Broadbent & Laughlin, 2003). Furthermore, it focuses on the orientation of the public sector to a "business" type cost management, based on a more efficient and economical public service system.

The Greek experience on current NPM applications is not different from the one of other European Union states whilst NPM in Greece, to date, has been successful for various reasons (Tsakalakis, 2013).

## CONCESSIONS

Concessions are long-terms agreements having to do with reciprocal scopes, namely either with the construction of public works and their economic exploitation or the delivery of services, outside the traditional legal framework. In the Greek legal order each contract is submitted to ratification by the Parliament, as there is no legal framework on the matter.

In Greece, the first introduction of an informal and not explicit PPP model was held in 1993, in form of concession, in virtue of P.D 23/1993. At that time, public works concessions were considered as a rather "legal paradox" (Trova & Koutras, 2001).

Although the absence of a material law on PPPs, in the 1990s, the Central Administration of Greece used the method of synergies (informal PPPs) mainly to attract private funds to carry out large construction projects. Such important works were the big international airport "Eleftherios Venizelos" in Athens, "Attiki Odos" and the bridge Rio-Antirrio "Charilaos Trikoupis", which was co-financed by the European Investment Bank.

Many had highlighted the need for the development of a legal framework that would allow a wider implementation of partnerships, particularly for non reciprocal scopes relevant to social fundamental rights (schools, hospitals etc.) (Anonymous, 2014).

As long as reciprocal scopes are concerned, through the use or operation of the infrastructure and the reciprocal charges, the Special Purpose Vehicle (SPV) of the private partner involved receives no availability payments. These projects, due to the high risk taken by the private sector for the repayment of capital (since there are no payments from the government), require special preparation and arrangement of a series of issues related to their bankability.

## **PPP CONTRACTS LAW**

The Greek Parliament voted in September 2005 the Law 3389/2005, a legal framework for PPPs, in accordance with European directives 2004/17 and 2004/18. This text established the following two administrative competent bodies:

- a) the Joint Ministers' PPPs Committee, which is the decision-making governmental organ, and
- b) the Special Secretariat for PPPs, within the Ministry of Economy and Finance.

It encourages ad hoc solutions tailored to the specific needs of each project given its uniqueness and particularity. It adopts the jurisprudence of the Greek Council of State law on the domains of public activity being incompatible with any public contract, the PPP one included, such as:

- national defence,
- policing,
- delivery of justice and
- execution of penalties imposed by the courts.

Partnerships may be subject to the provisions of this law if they meet the following conditions:

- a) they have as their scope either the execution of technical works or the delivery of services (or both), for which the public sector is competent,
- b) they include risk allocation whilst an important part of the risks relevant to the financing, construction, availability and demand of the scope and the associated risks, such as the administrative and technical ones, are in charge of the private partner,
- c) they are based on financing, in whole or in part, of the construction of the works or of delivery of services through funds and resources ensured by the private sectors and
- d) the total estimated cost is not superior to 500 million euros (at first the limit provided was 200 million euros) without taking account of the corresponding Value Added Tax. However, one or more of the last three requirements may be ignored in exceptional cases, through a unanimous decision of the competent governmental organ (Maniatis, 2010).

## ARE PPPS VALUE FOR MONEY?

International experience has proved that PPPs are able to provide high quality services and goods that satisfy citizens' demands in an effective way. According to an opinion, the successful application of this method leads to a reduction in total financial costs by 15-20% against the traditional procurement (Venieris, 2007). The success of a PPP in practice largely depends on the thoroughness of the contractual framework to be agreed as well as on the accuracy and clarity of the terms that will rule its implementation. However, no clear and definite data have been produced to date, as long as PPPs are compared with traditional public procurement on international scale, let alone the fact that PPPs are reserved for big infrastructure.

Greece put into use late the formal mechanism of PPP and has limited experience even as for concessions, for various reasons (Getimis & Marava, 2002). Nowadays, Greece has strongly recovered, for instance in 2014 7 PPP contracts were signed with a total value of 465 millions euros. Those contracts represented 0.26% of Greek GNP, whilst the first position is occupied by Ireland (0.47% of GNP) and the second one by the UK (0.36% of GNP).

On one hand, the fundamental advantage resulting from the PPP contract model against traditional public procurement consists in the good involvement of the private carrier, for a long period, during the execution of the contract. This value for money is supposed to be achieved through a better risk allocation and the commitment of both partners whilst the private partner should be entitled to consider how projects will be exactly implemented (Mourmouris, 2006). Some of the potential advantages of PPPs are the following:

1. Effective use of infrastructure, with the possibility of commercial exploitation by the private company.
2. Releasing resources for other projects.
3. Possibility to finance public works and services by private capital.
4. Qualitative infrastructure with greater functionality throughout its life.
5. Flexibility of the legal framework (Kitsoglou, 2008).

On the other hand, the main disadvantage of PPPs consists in the increase in the cost, as the public sector participates in financing the project. Some of the potential disadvantages are the following:

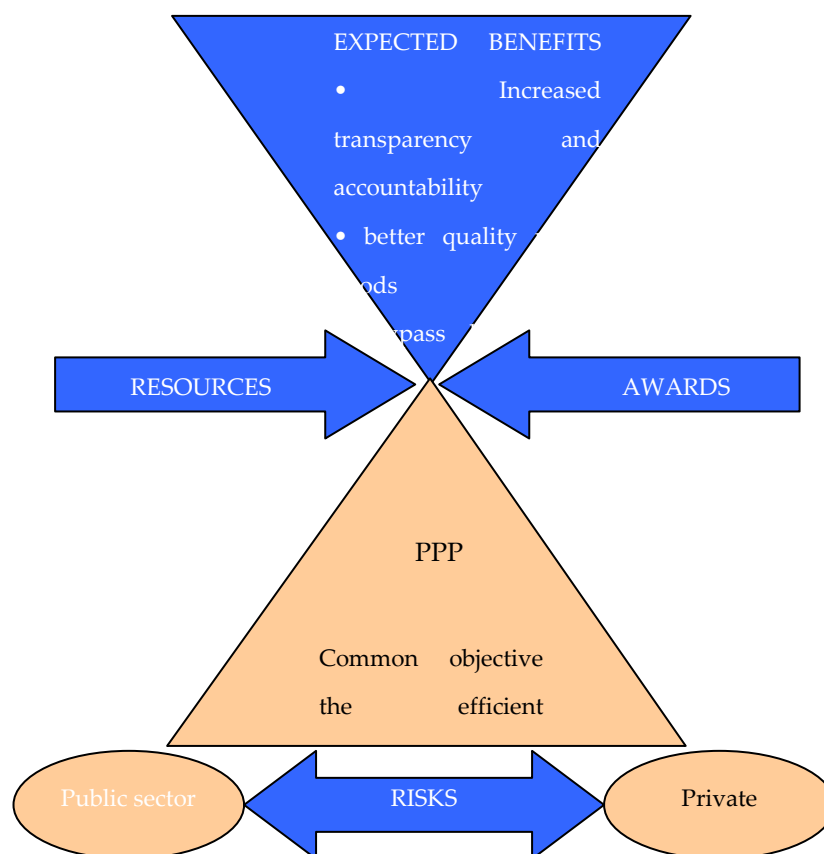
1. Limitation of the state control on the project by the State, since the management and the operation are done by the private partner,
2. They do not serve the Public Interest.
3. Monopolistic behaviours.



4. Deterioration in the provided quality, due to efforts to reduce the operating costs of a project.
5. Political risk.
6. Diffusion of responsibility, ability to evade democratic control.
7. Inefficient management contract (Gkafaridou, 2008).

## PPP AND NPM

The objective of PPP is the logical management to achieve a higher return on investment and to capitalize on the expertise and sometimes financial resources from the private sector. (Roehrich, Lewis & George et al., 2014). PPP is considered as a result of NPM, a modern tool of the alternative contracting out phenomenon, being conducive to innovation and efficiency (Evangelatou et al, 2013). The approach to PPP from the implementation phase up to the production and delivery of the "goods" are consistent with the principles of NPM (Karaïskou, 2013).



**Figure 1: Value PPP and NPM**

In conclusion, in harmony with the NPM, the “entrepreneurial governance” encourages private sector participation in the public sector activities, through PPP (Markantonatou, 2011).

Financial crisis, public budgetary cuts and liquidity restrictions force governments to develop new, more flexible tools and deontological rules for the provision of public services. The UK used institutional PPPs as a legal and managerial tool, based on the School of Thought of NPM. Speaking for British schools, experience has demonstrated that following the principles of NPM, UK Government first tried to give competencies to Local Authorities, but after the failure of the program, Government decided to follow a more centralized approach to procurement, like Greece. It seemed that liberal framework didn't work as expected, in this case.

While the UK PPP model is implemented in a rather liberal framework, following the common law system, in France PPP operates in the strict frameworks of the administrative law, following the jurisdiction of the French administrative courts. This contrast depicts the different administrative approaches of the two states; UK's liberal governance ("*Laissez-faire*") versus the French intervention policy ("*Dirigisme*").

## CONCLUSION: PPP, GOOD NORMS AND AMBIVALENT PRACTICE

The world experience leads to the conclusion that PPP is an emblematic tool of the alternative version of the contracting out phenomenon, which is one of the main methods of NPM policy in the UK and the other developed countries.

It is to point out the contribution of PPP both in the fiscal consolidation and in the promotion of policies relevant to economic development. The potential disadvantages of partnerships have to do mainly with various dysfunctions such as bureaucracy and corruption in the public sector. However, the allocation of risks helps normalize all previous phenomena and increase the impact of this institution on the broader process of development.

The legal framework of PPP contracts does not raise criticism, as a general principle, although contracted out prisons are regarded in most legal orders as unconstitutional. Besides, PPP projects have proved to be conducive to positive results, such as inter alia job creation, expertise, innovation and competition for infrastructure development. However, various problems, such as delays in execution of the contracts and breach of deadlines of delivery of the infrastructures etc, are not unknown in practice, let alone the fact that PPPs could be more geared at the promotion of pioneer initiatives relevant to "green energy", public health (particularly R&D against diseases), ecological transports, tourism etc. Their ambivalent practice should be considered as a challenge for a new policy promoting social rule of law...

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## RIGHTS AND REASONS TO LEISURE AND TOURISM

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### ABSTRACT

The right to leisure and particularly to weekend fits in well with the modern right to open and distance learning but it is not fully recognized within the school system of Italy for both alumni and teachers. In a similar way, in the framework of fundamental rights of third generation (solidarity ones, against the first generation of civil and political rights as well as the second generation of social rights), the right to tourism activities is marginal right, still implicit in the vast majority of formal constitutions. The motivation for leisure and particularly tourism is an important factor of enhancing the demand of these volunteer activities and reveals the intrinsic relationship between tourism and hospitality, mainly in its form of free services like accommodation. Last but not least, destination brands, in order to be effective, need to establish a brand personality which creates a link to the tourists' self-image through their needs and motives. States are highly recommended to have a joint policy on culture and tourism, produced by a unified Culture and Tourism-Hospitality Ministry, endowed with a sponsored public organization competent for the promotion not only of the tourism product but also of the entire state involved, on international scale.

**Keywords:** *Anthropos, Destination branding, Contract privileges, Hospitality, Justice Tourism, Leisure, Motivation, Open and distance learning, Push and pull factors theory, Sustainable development, 3G fundamental rights, Weekend (Week-end)*

### INTRODUCTION: NEW NORMS ON THE ENJOYMENT OF THE ENVIRONMENT

Literature has been recently enhanced by the PhD thesis "The normativity in law" (Brunet, 2011). As far as this monograph is concerned, it is to point out that till World War II, the term in use was, almost always, "the rule of law" (namely the legislative rule). Only later, because of the formulation adopted by Kelsen in his essays translated in French, the use of words "norme - normative - normativité" emerged, instead of the phrase "rules of law" (Pierrat, 2007). The newer expression was used mainly to imply that the law includes abstract and coercive rules of juridical nature. It is to

signalize that the French Constitutional Council in its judgement of 21.04.2005 made use of the following phrase: *'the law aims to provide rules, and must subsequently be coated with a normative significance'*. The doctrine has currently the tendency to admit the existence of a few 3G rights against the state, consisting in solidarity within the society, in the field of internal public law, such as the rights to the environment and to the sustainable development in the Greek constitution (Chrysogonos, 2006). One of the environment-centered rights is the right to tourism, incorporated into the branch of tourism law (Atherton, 2003). It deserves to be analyzed (in spite of its rather marginal normative recognition), particularly to its mass impact (Davidson, 1993).

On account of these data, the current paper aims to take an approach to the fundamental right and reasons to leisure. This analysis focuses on the enjoyment of the weekend and on tourism.

## THE RIGHT TO WEEKEND IN COMBINATION WITH LEARNING

The earliest recorded use of the word "weekend" occurred in 1879 in an English magazine, under the title "Notes and Queries", while it was about Saturday afternoon as the end of the week's work and Sunday. However the "week-end", according to the form used for this neologism, had to do with spending the available non-working time. So, it was connected with privacy, another expression that would be promoted through the legislation on the protection of privacy and particularly of the "personal data". The term "week-end" was exported to French, while from French to English was imported the term "bricolage", having to do with the most favorite leisure activity of the French people.

However, the lack of consistency is obvious, not only in the underdeveloped countries, as for the right to the enjoyment of weekends. For instance, in the Italian legal order, the right to the weekend has not been fully consecrated, yet. Just the opposite, the five-day employment was a policy of the fascist rule of Italy, so the so-called "Fascist Saturday" was a labor law right of the working people. Indeed, the program of the fascist party had to do with the enhancement of the condition of the labor class (reduce in working hours, collective management, augmented taxation on the capital etc.) (Chrysogonos, 2015).

Pupils in the primary and secondary stages of the educational system are taught six days per week, so they have only a one-day period of rest. This phenomenon is rather problematic in pedagogical terms and, anyway, it constitutes a serious obstacle not only for tourism but also for other leisure activities, such as excursions and hobbies. Even if their parents spend six days working per week, children could benefit from the weekend to develop tourism activities, for instance if one of their parents does not work.

As long as teachers are concerned, they do not have exactly the right to the enjoyment of weekend but of one day off duty, besides Sunday. Given that pupils have no free Saturdays, some teachers should work in Saturday. This restriction implicates the possibility for teachers to get rest a couple of consecutive days, namely Saturday or Monday along with Sunday, or a remote day, in relevance with the common day off duty (Sunday). The second alternative, existent in practice, is not merely an alteration of the institution of weekend but also a serious obstacle of leisure activities.

As far as Greece is concerned, school education and the higher one are, as a general principle, exempted from the six-day duties but the five-day week for the working people is in danger. Indeed, the five-day schedule, in vigor to date within the majority of enterprises, has not been imposed by law but it was simply consecrated in practice, through the obligatory application of relevant conditions of Labor Collective Contracts. However, in accordance to L. 4046/2012 enterprises are enabled to adopt either the six- day model or the five-day alternative, per each employee, upon their special needs. However, this change could not be imposed unilaterally but it should be accompanied by the consensus of the already hired people.

Last but not least, on international scale weekends have been combined with the open and distance learning studies of adults, particularly with the facultative consultative meetings of students with their University tutors.

## AN INTRODUCTION TO THE RIGHT TO TOURISM

Tourism has been institutionalized as a right, in deontological and juridical terms. As far as not legally binding consecration is concerned, article 7, under the title “Right to Tourism”, of the Global Code of Ethics for Tourism, adopted by the General Assembly of the World Tourism Organization in 1999, has the following content:

*“1. The prospect of direct and personal access to the discovery and enjoyment of the planet’s resources constitutes a right equally open to all the world’s inhabitants; the increasingly extensive participation in national and international tourism should be regarded as one of the best possible expressions of the sustained growth of free time, and obstacles should not be placed in its way;*

*2. The universal right to tourism must be regarded as the corollary of the right to rest and leisure, including reasonable limitation of working hours and periodic holidays with pay, guaranteed by Article 24 of the Universal Declaration of Human Rights and Article 7.d of the International Covenant on Economic, Social and Cultural Rights;*

*3. Social tourism, and in particular associative tourism, which facilitates widespread access to leisure, travel and holidays, should be developed with the support of the public authorities;*

*4. Family, youth, student and senior tourism and tourism for people with disabilities, should be encouraged and facilitated”.*

Besides, this right is a version of the (first generation) civil right to movement from one place to another (Jégouzo, 2012). Tourism has also a dimension of (second generation) social right, particularly in favor of poor people.

### THE 3G RIGHT TO TOURISM

The right to tourism could be incorporated into the 3G fundamental rights, which have some features in common, such as mainly the following ones:

- a. The universal character,
- b. The solidarity character,
- c. The environment-centered character (nature and culture, heritage included) (Bramwell, 1993).

First of all, as far as universality is concerned, tourism is a wide - range right, not geared exclusively for certain groups. Just the opposite, mainly after World War II tourism has been democratized as it benefited well from the new trend of social constitutional rights, particularly the employees' right to days off duty. In this way, working men and women could leave along with the rest members of their families for vacation, mainly in summer.

As for the solidarity character, it is to point out that literature was rather apprehensive towards international tourism in underdeveloped countries before the development of the 3G rights theory (Cromton, 1993). Tourism was considered as a factor of a new form of colonialism, based on the foreign dependency (Doxey, 1975). So, governments were supposed to find a means of managing, if not completely eradicating, the problems relevant to the cultural identity of the host countries. This was particularly the case in which tourism-related problems impacted on the sociocultural values of the society or on the environment (Budowski, 1976). Anyway, literature suggests that indigenous culture should be preserved through specific tourism legislation (Atherton, 1998).

Nowadays, it is obvious that tourism may develop a form of non-professional support of the host societies, particularly against poverty (Sarrasin et al., 2012). Tourists benefit from peace and the eventual friendship between the involved countries and may enhance the standards of life of local people, not merely in financial terms. For instance, the aforementioned Code is a fundamental point of reference for responsible and sustainable tourism. Tourists should pay respect for heritage and not

commit crimes, particularly relevant to cultural legislation, such as antiquities looting, and be encouraged to promote heritage. On international scale, in 1997 tourism adopted the objective of sustainable development, after the Special Assembly of the United Nations, known as 'RioPlusFive' (Aiello, Ferri, 2015). So, it is about an ecological approach to tourism within various international organizations and European Union (Dionysopoulou, 2012). This approach is quite different from the use of nuclear energy, although tourism development and atomic energy are officially studied by OECD (Rollina, 2011). Besides, specific forms of tourism, exemplified by cultural tourism, are also popular (Hunt, 1991).

Furthermore, alternative tourism constitutes a very dynamic version against the sovereign version of mass tourism (Apostolopoulos, Sdrali, 2009). It has been suggested that it could become '*the tourism in the promotion of a new order*' (Lanfant and Graburn, 1992). Justice tourism is regarded as a best example, building solidarity between visitors and those visited and supporting self-efficiency and self-determination of local communities (Scheyens, 2002). While the agendas of justice tourism and larger social justice may sound utopian, in fact relevant transformations can be seen underway. For instance, Argentina saw market relations disintegrate as a result of the 2001 economic crisis and Argentinians turned to worker – run cooperatives, barter arrangements and community solidarity networks to survive (Higgins – Desbiolles, 2008).

Tourism law exemplifies the phenomenon of law relevant to estates (in Spanish "estamental") (Parada, 1994). Indeed, it has been created mainly to protect the entire society enjoying the right to tourism, although it refers particularly to the entrepreneurs involved in the tourism industry market and to their employees (Logothetis, 2001).

## THE "PUSH AND PULL" FACTORS THEORY ON TOURISM MOTIVATION

One of the least researched areas in tourism, both conceptually and empirically, is motivation (Fodness, 1994); Goossens, 2000).

The analysis of motivations based on the two dimensions of "*push* and *pull*" factors has been generally accepted, as a review of the past literature on tourist motivation indicates (Yuan & McDonald, 1990; Uysal & Jurowski, 1993).

People travel because they are pushed by their own internal forces and pulled by the external forces of destination attributes. That is the concept that lies behind the "*push* and *pull*" dimensions theory. On the one hand, most of the push factors, which are origin-related, are intangible or intrinsic desires of the individual travelers. Pull factors, on the other hand, are the ones that emerge as a result of the appeal of a destination, as it is perceived by travelers. They include both tangible resources and



travelers' perception and expectation, such as novelty, benefit expectation and marketed image of the destination (Baloglu & Uysal, 1996).

Crompton (1979) was the first to attempt to draw seven socio-psychological (or push) motives (escape, self-exploratory, relaxation, prestige, regression, kinship-enhancement, and social interaction) and two cultural (or pull) motives (novelty and education). The conceptual framework, which he developed, would influence the selection of a destination, and this theory demonstrates that the destination can have a degree of influence on vacation behavior in meeting an aroused need.

Since Crompton's initial empirical effort, a number of studies tried to identify "*push and pull*" motivational factors in various settings, such as nationalities, destinations and events (Jang & Wu, 2006). Among others, a study held in Australia examined the nature and usefulness of the relationship between push factors and pull ones by utilizing canonical correlation analysis (Oh *et al.*, 1995).

It is important to recognize the fact that knowing the importance of both categories of factors can help destinations (and consequently all stakeholders involved in the tourism sector of an area) meet the desired needs of individual travelers coming from different markets. As one can easily understand, knowledge of traveler's motivation is critical to predict future travel patterns.

## DESTINATION BRANDING AND ITS ROLE RELEVANT TO TOURISM MOTIVATION

One of the most compelling tools, being available to destination marketers who are seeking a competitive advantage, appears to be the emerging destination branding. According to Morgan, Pritchard, and Piggott (2003) brands create a perceived distinctiveness, are evoking emotions and triggering behaviors because they have social, emotional and identity value to the users. In this sense, it has been argued that destination brands, in order to be effective, need to establish a *brand personality which creates a link to the tourists' self-image through their needs and motives* (Ekinici, 2003). This approach based on destination branding is very different from the traditional promotion of destinations, which normally use mostly physical attributes and activity opportunities. In this way, the tourist motives are directly targeted by marketers in their attempt to create more of a personal experience rather than a mere tourism package.

The development of destination branding research resembles many other areas of tourism research because it borrows and adapts concepts developed for consumer goods rather than services. So, an interdisciplinary approach is proved to be more fruitful. Hankinson (2001) argues that creating brands, as defined and discussed in the traditional marketing literature, is a more difficult and complex process when brands have to do with destinations and locations. As it happens in other areas of tourism research, questions emerge on the extent to which the assumptions of the traditional

branding are applicable in case of tourist destinations. Nonetheless, destination branding should be the result of a well-organized market research in order to implement the best marketing policies.

FIGURE 1. Conceptual Framework of the Destination Branding and Choice Process

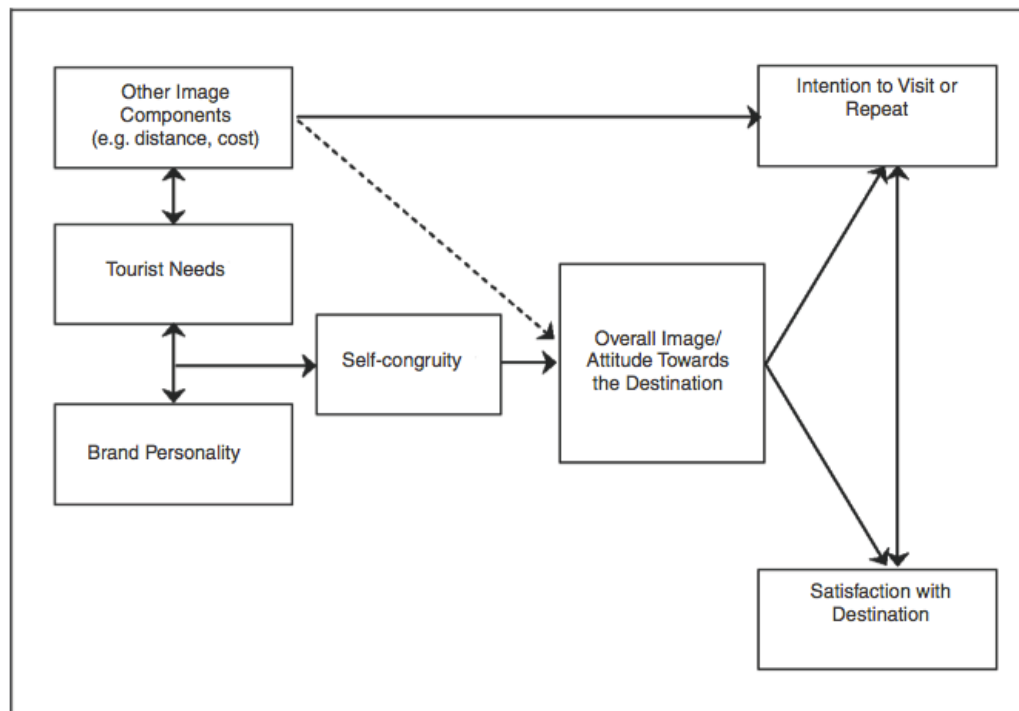


Figure 1. Conceptual Framework of the Destination Branding and choice process

## MOTIVATIONAL MEASURES FOR THE RIGHTS TO LEISURE AND TOURISM

Leisure practices and tourism movement are in need of the suitable motivation, for benefit of both interested factors (for instance, tourists as well as tour operators, travel agencies and other tourism enterprises). Indeed, to realize a journey for the enjoyment of a relatively remote environment, people should feel a real challenge to leave the comfort of their own home and the certainty of their own universe, to discover something else. First of all, they must have enough time to travel and to get rest, otherwise travelling could have a boomerang result. So, state authorities are supposed to ensure enough time for vacation and consecrate legally the right to the enjoyment of the entire weekend for both working people and students. Even for the employees' categories, for which the weekend could not be institutionalized, partly or totally, as free time due to the nature of their duties, all people should be enabled to have an off duty period of two consecutive days per week.

As already implied, schools of the inferior education and universities, the open ones included, should teach and inspire tourism and the fundamental right to tourism. The social stereotype that "tourists" are not decent people against respectful "travelers" has been in vigor, so far (Vainopoulos,

Mercier, 2009). For instance, people have the tendency to say for a man who has not worked enough and is presented in a rather unconventional way that he is a ... "tourist". Actually, it is about the era of democratization of tourism, so tourists are supposed to be regarded as common people benefiting from the universal right to tourism, not as picturesque people with a rather deviant behavior.

Besides, the motivation strategy could be developed through institutional tools, coming from either the public management field or the marketing one, such as inter alia:

*A.1 A joint policy of a unified Ministry on Culture and Tourism-Hospitality, not an autonomous policy of a separate Ministry on Tourism*

Italy has been recently endowed with a unified Ministry on Cultural Goods and Tourism. This was also the case of Greece, from 2009 and on, for a short period of time. It is about a crucial political choice, highly recommended not only for the so-called archeological countries, such as these Mediterranean states. Anyway, the Ministry competent for Tourism deserves being called "Tourism - Hospitality Ministry", as hospitality is a symmetric (and also much wider) notion of the tourism movement. The couple "tourism – hospitality" is comparable with the modern notion of sustainable development. Anyway, the motivation for tourism movement becomes stronger as long as it is produced by carriers or private individuals offering hospitality. Indeed, if anyone offers free accommodation, let alone with discount tickets of transport or with other extras like free sightseeing tour, for instance within the program of an international scientific Conference, a challenge emerges for potential tourists. Of course, public carriers are expected to adopt this practice themselves (for instance as long their own conferences are concerned), setting a good example to private companies.

*A.2 Advertisement mainly by an "ambassador" promoting the interested state, not only the national tourism!*

Advertisement is not in use only by private companies but also by states, to promote international tourism, through Internet and traditional mass media. For instance, in virtue of L. 4276/2014, the Greek Organization on Tourism, a state legal person, has acquired the role to promote no more merely the tourism product of Greece worldwide but the Greek country itself, as its informal "ambassador"! So, it has to focus not only on tourism product but also on leisure activities and challenges and the whole identity of the Greek state, the cultural identity (such as political history, culture etc.) included. So this "diplomacy" innovation fits in with the aforementioned motivational measure of the existence of a unified Ministry on Culture and Tourism, although no combination is available in Greece.

*A.3 Tax-discount sponsorship, exemplified by the support towards the advertising "ambassador" of the interested state*

Another highly recommended mechanism, close to advertisement, consists in various forms of sponsorship contracts, exemplified by cultural sponsorship contracting. It is also to signalize that by the aforementioned L. 4276/2014 a new type of tax-discount sponsorship has been introduced in the

Greek legal order. New legislative “rules” (namely not “norms” having a coercive nature but, just the opposite, “rules” as motivational tools) preview the sponsorship contract for the development, the highlighting and the promotion of Greece. Receivers can be either the Ministry of Tourism or other carriers submitted to its supervision, like the aforementioned Greek Organization on Tourism. So sponsorship is officially connected with the mission of this advertising “ambassador”.

*B. Contract privileges (Special offers)*

Special offers for clients, exemplified by discounts of less or major importance, constitute one of the marketing tools available. A recent development consists in the consecration of privileges, which enhance the institutional position of some clients, benefiting from this particular offer. It has to do with the policy of big air transport companies, such as Emirates, headquartered in the city of Dubai, and Etihad, headquartered in Abu Dhabi. These enterprises offer a number of discount tickets to their staff and each employer can deliver them to his relatives or friends. In this way, these people may be facilitated to go from abroad to the city, in which their familiar person lives. Eventually, they may be offered hospitality by these migrants, who make use of the free accommodation offered by their employer. In this way, international tourism (as far as the journeys are concerned) meets hospitality related to night stay, within a very successful motivational project of air transport company involved. The most interesting element of this drive has to do with the assimilation of privileged travelers with the crew of the flight, at least as for the dress code of the company. In other words, common people, which are likely to have no professional bonds with the market of tourism and air transports, have to wear a decent attire during the travel, according to the norms (in form of the so-called “dress code”) of the company, like the crew that is supposed to wear the official uniform. It is not merely about a question of appearance but a matter of culture relevant to responsible tourism, for privileged travelers! However, in 2016 Emirates seems to abstain from its own drive...

## **CONCLUSION: THE RIGHT TO WEEKEND MEANS THE RIGHT TO BE AN ANTHROPOS!**

In conclusion, tourism is a very important activity, still marginalized in legal terms. It is totally absent, at least in terms of explicit recognition and institutional guarantee, in the vast majority of formal constitutions, worldwide.

It is highly recommended to adopt rules and norms on the recognition, particularly in the constitutional level, of the following rights:

*a. To Tourism*

This proposed development does not have the meaning of completing the puzzle of the fundamental rights through the introduction of another right, which has *inter alia* a 3G content. In other words, it is not about the “last” constitutional right to add, in correlation with the 3G rights to the environment and to the sustainable development, but rather a key to reconsider the whole system of rights, institutional guarantees and similar general principles consecrated in formal constitutions, in favor of human dignity and particularly public health.

*b. To Hospitality*

The right to tourism is completed by the symmetric right to hospitality, particularly in its strict form of free accommodation. Anyway, the fundamental right to hospitality should be explicitly institutionalized, as a 3G right, in systemic correlation with the complementary right to tourism. It is about a new challenge, as even the aforementioned Code of the World Tourism Organization did not take this recommended approach to the tourism phenomenon. Hospitality constitutes a very important, polyvalent “code” of values itself, strictly related to various fundamental rights, particularly to the 3G ones, such as the rights to peace, to international friendship, to sustainable development...

*c. To 2-day vacation per week and to leisure*

Pupils, students and working people should be enable with a vacation lasting a couple of consecutive days per week, coinciding as a general principle with the weekend. All people do deserve the right to leisure, with the special care, let alone the motivation, of the state and the symmetric development of 3G rights.

As far as business is concerned, companies have to realize that 3G rights constitute a great challenge for their entrepreneurship, as they, themselves, are the carriers of these rights. By making use of these rights, they offer a great motivation for their potential clients, through free offers or conventional ones, always in conformity with the principle of sustainability and the ideal of responsible and sustainable tourism.

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The missing constitutional right to the enjoyment of the entire weekend means the right to be an *Anthropos*!

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## DISTANCE LEARNING WITH EMPHASIS ON TOURISM

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### ABSTRACT

Distance learning, the alternative modern method for higher education, is likely to need completion by incorporating the traditional educational practices, mainly apprenticeship and lecture. It fits in with the right to leisure, well exemplified by the enjoyment of the entire weekend. As to the digital education technology, Internet is the medium of online learning whereas it is also available for distance education, which can serve even the apprenticeship through web casting. Mobile phones have a rather marginal function among the tutor and his students while educational community is apprehensive of hi-tech gadgets because of their frequent technical disorders. Distance education should incorporate not only the intrinsic treasure of wisdom of any traditional pedagogical technique but also these techniques themselves, without altering its own identity. As far as tourism education is concerned, it has been recently combined with e-learning as well as open and distance learning. The new, separate branch of law, Tourism Law, is promoted through its incorporation in the programs of higher education, exemplified by a master degree program of the Hellenic Open University.

**Keywords:** *Apprenticeship, Open and distance learning, Educational methodology, e-learning, Internet, Lecture, Mobile phones, Right to leisure, Tourism, Tourism Law (I" Justurismo"), Weekend*

### INTRODUCTION: DISTANCE LEARNING, WHERE VARIOUS INNOVATIONS MEET...

Nowadays, the traditional-type knowledge delivery for upper studies has lost territory in favor of distance learning, exempted from the natural contact between the student and the professor in the same place. Distance education is conceived as the intrinsic suitable tool for the delivery of open education services. This alternative method is widely regarded as the pedagogy of the future along with e-learning, particularly on-line learning. Moreover, some experts appear in such a pitch optimistic that they have predicted that the demanding traditional model, called "residential", consisting of students attending classes at prearranged times and places, will disappear in the near future (Blustain, Goldstein, and Lozier 1999 and Drucker 1997). The present paper focuses on the distance learning

process via the hypothesis that this method should be completed by incorporating the preexistent educational practices, mainly apprenticeship and lecture.

This paper analyzes the traditional education methodology, the right to leisure particularly to the enjoyment of the entire weekends and the hi-tech appliances available for distance learning. It makes a special reference to the phenomenon of tourism movement, as a discipline to offer either through online learning or distance learning. Within this case study, the modern branch of Tourism Law deserves a special focus.

## **TRADITIONAL EDUCATION METHODOLOGY: APPRENTICESHIP**

According to the established concept, the lecture tool for higher education is as old as the hills. So, it is amazing to localize alternative approaches regarding lecture as a relatively new phenomenon against apprenticeship (O'Malley, and McCraw 1999).

Apprenticeship is the form of education that demands the physical contact of both poles of instructional process and has an intensively dynamic and practical orientation. It is undeniable that for centuries knowledge was passed from a master to a pupil in a one-to-one or one-to-few arrangement. This method may be regarded as older than lecture but the point is that the educational system of reference should be defined. In other words, learning an art or a profession in the correspondent workshop or office is something natural, dictated by the dynamic of the market. However, this practice, reminding of the so-called "informal learning", is far away from the official institution of University. At least in current terms of education, old apprenticeship should be defined as a form of training instead of higher education.

It is to signalize that the approach to the apprenticeship archetype recognizes it in the actual academic level. Advocates of this theory localize this institutional survival in most Ph.D. programs, today. This remark may be inspired by the random scheme of the student and his research director but it is hard to admit such a survival.

Indeed, Universities give the opportunity to researchers to compose a doctorate work without attending a doctorate school. In other words, even if there is a circle of lectures especially given to the correspondent students, attendance is purely voluntary. So, there is no difference between the distance learning methodology and the traditional one, as for this degree. However, the contact between the candidate and the professor is not exactly the apprenticeship form of education, given that it is not about a synchronous kind of instruction in the same place. Furthermore, the student does not attend the typical practice of his mentor, consisting in teaching or composing his own scientific monographs.



The phase of the doctorate monograph or of the term paper in lower levels, such as the bachelor and the master degree, is not really the case of apprenticeship. Nevertheless, this kind of practice is present in the official system of higher education, let alone in the same phase to the aforementioned. It is institutionalized as a stage, available in public services or in enterprises particularly for students completing their studies program.

It is to draw the conclusion that apprenticeship is not only present in the current academic field but also it has a major importance, exemplified by various elements. First of all, it characterizes the supreme phase of the studies period for a diploma and has a great grade impact. Furthermore, it has a material significance because it gives to beginners the opportunity to have an initial experience in their future field of competence, offered through the correspondent mentors. So, praxis has an obvious value in the still theoretical background of the interested persons and therefore it is incorporated to the material to teach.

Distance learning methodology is clearly not incompatible with praxis as it may be used for either purely theoretical material or practical one but the question is whether it fits in with the apprenticeship mechanism. Typically, it is perceived as something by definition different from this kind of particular learning because apprenticeship is supposed to take place in the mentor's place. This aphorism dissociates fully distance education from apprenticeship and may implicate a reduced content of remote learning, becoming poor in the correspondent intrinsic treasure of knowledge, on the basis of the eventual misunderstanding that this treasure cannot be theoretically taught.

By the way, it is to make a special reference to the fact that forms of education do have a typical pedagogical orientation, thanks to which correspondent pieces of academic truth are revealed. This crucial remark is exemplified by apprenticeship inherently linked with training, especially the vocational one, and the affiliated wisdom, as it is the case of the particular tricks in practicing a certain profession. This does not rule out the possibility to teach or investigate this material by using other techniques, like remote learning that does not deserve to be doomed to have a merely theoretical and vague content. Moreover, distance instruction should fit in with apprenticeship process, even if the discipline to teach is difficult and needs exemplifying and permanent monitoring. To accomplish this project, facilities offered by the new technologies of information and communication are of major importance while the academic speech should become "radio-type". This development accentuates the intrinsic nature of distance education, which is interactive and personalized, so not far away from the physiognomy of the instruction on the matter. However, in the current level of the distance learning system, even knowledge of some working students, which has been already acquired through their profession, remains often dissociated from the similar units of the discipline to teach.

## **TRADITIONAL EDUCATION METHODOLOGY: ORAL PRESENTATION**

The talk giving information about a subject to an audience is typically perceived as the oldest method to deliver higher education material. This is true for the academic environment as the professor is a skilled lecturer before his usually extended public. In this way Universities have been created, as it is the case of the Constantinople University of the Byzantine Empire, created in 1044. The diploma that the students of that University obtained is regarded as the first one in the European history (Maniatis, 2004). Apprenticeship historically has been proved to function as the necessary substitute or the supplement of the theoretical presentation of the correspondent discipline. Indeed, arranging a meeting at a given place and time with many students has become the traditional main delivery method while distance education methodology, initially as correspondence courses, has been a marginal one. It is to clarify that modern professor can take advantage of many other pedagogical techniques, among which the most important one is the seminar, having to do with study of some subjects by a group of a few students coordinated by their professor.

Lecture is the random way to teach particularly theoretical material while seminar is typical for upper studies and in-depth participatory research. Distance learning is phenomenally incompatible with the oral delivery as it is by definition a form of separated education in terms of place but it has essentially adopted the seminar method to an extent, through essays for the qualification for the final written examinations. Even lecture is not completely unknown as it may be informally present during the synchronous contact between student and tutor. In other words, there are some institutionalized opportunities for short oral presentations reminding of the traditional teaching. This is the case of the so-called “group consultative meetings” of the Hellenic Open University, during which the tutor has a contact with all his present students. Although the scope of these periodical meetings of voluntary attendance is not officially to teach the discipline, an oral presentation of the entire material with eventual emphasis in some difficult units constitutes common practice. This practice, many times required by the students themselves, should not cause embarrassment in terms of methodology but it is really conducive to learning success. Therefore, it produces a better settlement of relationships between the tutor and his public while distance learning is right not to dissociate itself from the academic spirit to serve, along with traditional methods.

As learning is something difficult, the distance one is also lonely and needs personalized relations, particularly feasible in the weekends.

## THE RIGHT TO LEISURE IN COMBINATION WITH OPEN AND DISTANCE LEARNING

It seems self-understood that people do deserve enough free time to get rest and entertain themselves. For instance, the right to leisure has been seriously promoted by the institutionalization of the five-day employment per week. Working people, in both private and public sectors, have acquired since '80s the possibility to remain off duty for two days, as a general rule in the weekend.

This couple of days is not merely an occasion to get rest but also a challenge for leisure activities. Last but not least, it has been combined in practice with another institutional trend, distance learning. The Open University of the UK has been the pioneer organization to modernize the distance education methodology and to give the opportunity, particularly to young people, let alone the working ones, to benefit from their leisure and realize further studies, either of graduate level or of upper one. So, students of many countries can complete their set of knowledge in educational institutions, particularly the specialized on the matter Open Universities. These Universities offer the opportunity for consultative meetings of each tutor with his group of students, in some weekends per academic year. In this way, students can meet one another and be supported by their tutor, in a way quite similar to the methodology of natural education. This is a very valuable way to cope with the intrinsic controversies of distance learning, such as the loneliness of the student during his study, the fact that the educational textbook is regarded as the professor...

As far as the not human substitute of the authentic educator is concerned in distance training, *the focus of the learning process is trainee, who discovers the pathway to knowledge, studying in his own space - time and at his own pace (Gatsoulas and Manousou, 2015). So, weekend is an excellent period of time for distance training programs as well as for distance education ones.*

So, working people have the challenge to become more competitive in their careers, by acquiring academic titles in an open way, namely without participating in the traditional-type knowledge contests for entry. They are also exempted from the constraints of the system of natural education ("residential" model). Even the consultative group meetings, held in some weekends, are merely facultative. However, open and distance learning system includes an important role for the tutor, endowed with a new role and another dimension than the ones relevant to the traditional educational system, the status of "Professor – Consultant" (Tsitlakidou and Manousou, 2013). This title is the official one for tutors of the Hellenic Open University.

It is also to pay attention to the fact that in some Open Universities, like the Open University of Cyprus, headquartered in Nicosia, consultative group meetings are blended. The blended system consists in natural meetings available in the Internet, for an e-learning simultaneous participation of students that are not present in the venue of the University. This model is particularly useful for a

University like the Cypriot one, because 50% of its students live in Greece, they do not have their residence in Cyprus. Just the opposite, the fact that the vast majority of students of the Hellenic Open University, headquartered in Patras (Greece) live in Greece justifies the fact that the blended system is not in use.

Anyway, new socioeconomic and pedagogical data have led to an increasingly polymorphic style of the current open learning.

## HI-TECH APPLIANCES: INTERNET

Educational technology has the upper hand in terms of modernization of the higher education. For instance, learning through the interactive multimedia appliances is a process and not simply a technology, offering new learning possibilities (Stemler, 1997). It would be interesting to examine some facets of the advanced technology on the matter, with a special reference to the needs of the distance process.

Internet constitutes the medium of a new instructional method, the so-called online learning, which belongs to the wider category of e-learning along with audiovisual education and off-line use of computers. Students have the tendency to consider that the online paradigm has certain advantages to traditional methodologies, such as saving time, fitting in better with their personal schedules and enabling them to take more courses (O'Malley and McCraw, 1999). *The concept of Open Education incorporates a simple but powerful idea: that knowledge society is a public good and that the open Internet technology offers an excellent opportunity for everyone to share the use and reuse of knowledge.* (Gkelameris, 2015).

However, it is to pay attention to the fact that online instruction has been proved to be no easy task (McKenzie *et al.*, 2000). Online classes, if not delivered effectively can have high drop out rate due to a wide variety of reasons, such as insufficient feedback from the instructor, technical difficulties, and/or poor course design (McKenzie *et al.*, 2006). It is to underline that online techniques are quite often combined in praxis with classic ones for the same courses.

Offering instruction in the cyberspace does not coincide with the synchronous distance learning because it is asynchronous, given that delivery of the course material precedes receipt of such material by the student. However, both techniques have a lot in common, as they do not implicate the coexistence of professor and students in the same place and take advantage of Internet facilities.

As distance learning takes advantage of both categories of education, via typed material and e-learning, it has an obviously wider content than online instruction. It is not principally Internet-based and is exempted from the impersonal use of the available material, thanks to the tutor's intrinsic mission. It is to signalize that even Internet is in use to foster the appropriate bonds between the two

poles of the instructional process, mainly through the e-mail communication. This kind of practical communication is conducive to success for the mission of the tutor-counselor. As a matter of fact, on the one hand the mentor can play out his main role of instructor in a fast and rather economical way, which implicates a comeback to the roots of the distance learning method, in form of traditional correspondence. On the other hand, he enjoys the precious faculty to accomplish his consultative duty by giving information and advice as well as by encouraging the members of his study group, either in an individual or in a collective form.

Besides, innovative techniques like web cast may help the student learn the material in a way similar to the attendance of a lecture in a real classroom. However, this video-based oral presentation, which familiarizes the distance-learning student with the traditional methodology, is not exempted from technical controversies. As a general rule, the educational community feels apprehensive of the application of distance-learning technological appliances.

Apprenticeship should not be omitted from this instructional simulation as it is possible to present a mentor teaching not only orally but also through real action his experience. This “how-to-do-it” delivery, supported by further instructions especially via phone and during the consultative meetings, and also accompanied by a regular assessment of the correspondent learning, may be proved to be almost as satisfactory as the traditional one for the development of the student’s required skills. Moreover, even a feed-back should be ensured, in the sense that the beginner may function as the productive assistant of his mentor in the mission on the matter.

## **HI-TECH APPLIANCES: MOBILE TELEPHONY**

Up to date, mobile telephones constitute a rather marginal medium for distance education, contrarily to the conventional ones constituting a regular means of communication between the student and the tutor, like e-mailing. On the one hand, it is doubtful whether instructors are legally obliged to maintain a mobile phone number at the service of their students. Anyway, they may take advantage of a deviation of calls from their known phone to their mobile one during the weekly timetable of students’ phone communication with them. On the other hand, students often ask for this kind of contact because it facilitates significantly the access to their mentor, although they can communicate by other fast media. Mobile phones may serve the group of tutors of a Subject, particularly during the examinations, simultaneously held in various educational centers, although this form of communication is not institutionalized.

Last developments on international scale consist in attempting to make mobile phone a regular medium of distance instruction. Nowadays, mobile phones of advanced technology constitute a tiny form of multimedia, incorporating the possibility of e-mail communication. Receiving an e-mail in the

frame of the Short Messages System is a valuable facility while, up to date, mobile phones are almost exempted from the spamming phenomenon that dominates classic Internet. However, one more time it is not to overlook the doubtful value of the current technical status of hi-tech gadgets.

## **AN INTRODUCTION TO ONLINE LEARNING ON TOURISM**

Online Learning Training (OLT) has recently entered the fields of Hospitality, Leisure, Sport and Tourism. Estimable pioneers, the first members of staff who have paved the way are followed by an increasing number of colleagues, although there is still much reluctance amongst academics. With existing programs not principally designed to be delivered and assessed online, embarking on the e-wagon means using IT and CMC to support rather than replace face-to-face interactions. It is by no means an easy task: the learning curve is a steep one, and one is bound to experience frustrating technological, pedagogical and practical problems, at least in the beginning. Yet it is undoubtedly worth it, not only because of personal reward (feelings of achievement and self-esteem, popularity amongst students and colleagues as a successful innovator), but also because of four key advantages, in terms of IT skills, innovation, flexibility and support. Interestingly, both students and tutors seem to benefit from OLT in those four directions, which may well be the ultimate sign, if necessary, that everyone can gain from developing online activities in higher education in the subjects of Hospitality, Leisure, Sport and Tourism (Lominé, 2002).

As far as e-learning is concerned, its advantages are widely mentioned, e.g. life-long learning opportunities, alleviating spatial and time constraints, catalyst for institutional transformation (Poehlein, 1996), while its applicability and benefits for tourism/hospitality education are now also starting to be recognized (Cho and Schmelzer, 2000; Sigala 2001b; Kasavana, 1999). However, although an increasing number of tourism and hospitality educators are adopting and incorporating Internet tools in their instruction, only very few of them are fully exploiting the Internet's capabilities to transform and extend their pedagogical models (Sigala and Christou, 2002). On the other hand, it is generally agreed that we are still in the experimental stage for creating Internet learning environments. This, coupled with the low completion and effectiveness rates of e-learning (Sigala, 2001a), makes it evident that more needs to be learned about designing successful online environments, technically, pedagogically and personally.

## **MASTER DEGREE DISTANCE LEARNING ON TOURISM: THE GREEK CASE**

As far as distance learning is concerned, it does not have strong bonds with the tourism discipline, yet. Anyway, it is important to signalize that Greece leads a boom period relevant to international tourism, from 2012 and on. Due to this serious development, the state attempts to upgrade both Innovation, Entrepreneurship and Digital Ecosystems

tourism services particularly to foreign tourists and tourism studies, traditionally offered by the public institutes “technological educational institutes”, as far as higher education (equivalent to the Universities one) is concerned.

The Alexander Technological Educational Institute of Thessaloniki runs its own three-semester program, from February 2016 and on. This master has no entry examination but it is based on a “soft” selection procedure, including a personal interview of candidates and two letters written by referees and a level B2 certificate of command of English language. The first semester and the second one include teaching, in Greek, of various courses whilst the third semester comprises uniquely the thesis. Some of the courses are obligatory and the rest à la carte, with no Tourism law discipline! In a similar way, the University of Macedonia, headquartered in Thessaloniki, runs from October 2015 and on an officially recognized three-semester, master degree program relevant to the management of tourism companies and organizations, with no Tourism law course available, at least among the obligatory ones.

So far, the unique available master degree program in the Greek higher education had been offered by the School of Social Sciences of the Hellenic Open University. Although other Universities and Technological Educational Institutes in Greece have recently adopted the trend to offer master degree programs through distance learning, at least in combination with the natural education methodology particularly useful in weekends, they seem rather apprehensive to offer a program on the matter, with the exception of a few Institutes like the above-mentioned and the Technological Educational Institute of Athens.

It goes without saying that tourism studies have been rather marginal till recently, in the Greek higher education. For instance, Universities had no bachelor degree programs specialized in management of tourism companies, being a specialty unofficially reserved for programs offered by Technological Educational Institutes. This implicates that this discipline was likely to be slightly underestimated, due to the fact that Universities, having as a general rule a particular prestige against the educational institutes of the technological sector, avoided offering academic titles on the matter. Besides, another implication consists in the fact that few experts in tourism subjects are available to teach within upper studies programs, like master degree ones.

As far as the program “Tourism companies management” of the Hellenic Open University is concerned, it is about a two - year program with a very high demand of candidates, lawyers included. It comprises 4 obligatory Subjects of common type (namely each Subject is equivalent to natural education courses) and the thesis as a separate Subject. It is to pay attention to the fact that this master degree program is not only offered by an authentic University but also related to the valuable possibility to teach and be taught the discipline of Tourism law.

Indeed, all students have the privilege learn principles and elements of Tourism Law, against the ones of conventional education, the Law School included! The law education is held initially within a Subject of wider content and potentially through the composition of the thesis. In other words, it is about a really open program, for those who want acquire knowledge on the legislation on tourism companies and organizations. However, as recently tourism law has evolved into a separate specific branch of law, being no more a mere “legislation”, it is highly recommended to adopt the brand name “Tourism Law”!

As far as the financial problem is concerned, it is to point out that even the new master degree programs on tourism require payment of fees by students.

## **CONCLUSION: DEMOCRATIZATION OF EDUCATION THROUGH DISTANCE LEARNING**

Distance learning is the adequate substitute of traditional education in its whole but it should incorporate not only the intrinsic treasure of wisdom of classic techniques but also the techniques themselves, without altering its own identity. In other words, the apprenticeship may take place alternatively, through new technology appliances. Despite the fact that apprenticeship is strongly connected with the coexistence of the mentor and the apprentice in the same place, this obstacle should not be absolutely prohibitive. If the superior academic semesters of Medicine studies are fully reserved for hospital practice, other disciplines may be partly or totally offered through remote educational methods. Otherwise, not only does distance methodology undermine the correspondent open education philosophy but also it is doomed to have a rather restricted reputation as long as programs of “upper class” are not available.

Distance learning is also compatible with the prevailed forms of traditional learning, both lecture and seminar, although it has its own methodology.

In this frame of thought, it is obvious that higher education needs not only modernizing but also further democratization through the democratic tool of open and distance learning. Thanks to this avant-garde form of instruction, people can reach to the universal legal good of knowledge far away from social exclusion, in the constitutional framework of social rule of law, explicitly consecrated as a double general principle (constitutional guarantee) in par. 1 of article 25 of the Greek formal constitution. Even the instructor figure symbolizes this antiauthoritarian concept as it has no authority *ex cathedra* but it is officially assessed by the distance learners through its consultative mission, conceived as a counterbalance to their particular and augmented controversies.

Distance learning is the instruction of the future, with correspondence to any form of traditional education, without repeating its commitments, so it is not a distant process but an accessible and



individualized one. It has a revolutionary, open content, particularly friendly for rather marginal disciplines and new branches of law, like the worldwide trend of "Tourism Law", known in Spanish with the neologism "Justurismo".

However, it goes without saying that open and distance education has still a lot of problems to solve, as *inter alia* the following:

#### 1. *Open access*

How open is the student access through the electronic draw system, particularly for high demand programs like the management of tourism companies? The Greek government aims to replace this system as all studies in the Hellenic Open Universities are paid.

#### 2. *No fees for studies*

How open is the student access with the payment system, even for the bachelor degree programs, which are still gratis in the rest Greek public institutions of higher education?

#### 3. *Full salaries for tutors*

Tutors do deserve a full salary, independently of the number of students to teach, a problem already solved by the UK Open University for its Senior Lecturers, not by other Open Universities...

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Distance learning and tourism constitute highly recommended alternatives for the weekends of end-users!

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## ANALYSIS OF SPORTS FAN RELATIONSHIPS WITH SOCCER TEAMS

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### ABSTRACT

This paper investigates relationships sports fans establish with teams. Specifically, it is studied the Sporting C.P. case. The purpose of this study is to analyze whether the efforts that Sporting managers are putting on marketing strategies and initiatives, grounded on new communication channels and services (for instance, social media presence) impact the bonds of Sporting's fans with the club. Important European soccer teams need to preserve a strong fan relationship base, both at domestic market and abroad. Results indicate, in general, correspondence between the expectations expressed by club leaders in semi-structured interviews and information collected through questionnaires on fans perceptions. Most of the marketing strategies and initiatives are well received by fans. It seems that Sporting brand still has space to grow. The establishment of strategic partnerships, and sport marketing innovative strategies, in line with innovative communication channels are recommended. Study also emphasizes the importance that social networks have achieved in sports management.

**Keywords:** *Sports Fan, Relationships with Teams, Sport Marketing, Team Sport Industry, Sports Club, European Soccer Teams.*

### INTRODUCTION

In recent years, sports marketing has experienced a growing interest. Basically, sports marketing apply the principles and processes of traditional marketing with the purpose to create a sport product directed to fans, participants and spectators (Gray and McEvoy, 2005; cit. in Fullerton and Merz, 2008). According to Shank and Lyberger (2015, p. 5) "sports marketing is the specific application of marketing principles and processes to sport products and marketing of non-sport products through association with sports".

Sports marketing can be divided into two categories: the marketing of sports and marketing with sports. The marketing of sports involves the promotion of sport products and services such as: sport events and equipment for fans and participants. The marketing with sports refers to all marketing

activities that use sports, sports events or athletes to promote non-sport products and services (Ratten and Ratten, 2011).

Sports results are an essential factor for the financial success of a club, since they are determinant in sponsorship catchment, membership and audience in domestic market (Arigil and Penazzio, 2011), and participation in European events, for instance in the case of European soccer teams, among others. In this way, a team with low sport scores tend to show a lower brand equity, and vice-verse. However, to limit sports brand equity issue to athletic success does not offer all the picture about how sports fan relationships with teams are grounded. For instance, strong emotional, exclusive and unconditional relationships that a lot of soccer fans establish with their teams are one of main assets that a soccer club can hold, since they give guarantee of continuation in the relationship (see, Aaker, 1996; Fournier, 1998; Keller; 1998) even in face of low results. Thus, teams should work to strength relationships with fans in order to increase brand equity (Bauer et al., 2005). Given the considerable growth that nowadays sports industry is experiencing, sports marketing can be of main importance for sports managers (Shank and Lyberger, 2015).

This topic has gained relevance in Portugal due to the consolidation of the soccer business in the national economy, and its importance in the promotion of Portugal image abroad. In particular, Sporting Club de Portugal (Sporting CP) is one of more important soccer teams in Portugal that has been suffering a downturn in terms of sports scores that put it away from the more important European football competitions in the last years. Sporting CP was one of the first Portuguese and European football teams, holding a long tradition and international recognized image, represented by internationally well-known and valued players and performing important economic transactions every year. Besides, there is a lack of investigation about it comparing to the other two major teams in Portugal.

The purpose of this study is to analyze whether the efforts that Sporting managers are putting on marketing strategies and initiatives, grounded on new communication channels and services, impact the bonds of Sporting's fans with the team.

The paper includes six sections. The first addresses theoretical background, the second section describes a qualitative first study, the third offers the hypotheses of the study for the second study, and the fourth the methodology. Results and conclusion are presented in the fifth and sixth sections, respectively.

## **THEORETICAL BACKGROUND**

Kapferer and Laurent (1992) state that brand performs some roles in consumer's decision making process: guiding (distinctive, contributes to improve the information available), facilitator (allows

consumer to store results of recent decision-making processes, seeking a repetitive buying process), guarantee (repetitive quality standard) and personalizing (the consumer choice expresses the will of differentiation). A brand becomes valuable when consumers react positively to the product from the moment that recognize and identify it. This effect is at cognitive, affective and behavioral level. Brand equity is inextricably linked to marketing activities and market performance, and can be, ultimately, measured by the awareness and associations that brand achieve in the market (Keller, 1998). Keller also notes that the emotional factor, attached to the brand, results from the interaction between consumer and service.

Sport consumption is highly symbolic and experiential (Bauer et al., 2005) and, therefore, offers a ground to the development of highly emotional brand relationships. A consumer-brand relationship normally contains both functional and emotional components and the importance of each one can vary according to the offer, customer, etc. A brand-customer relationship is directly linked to customer satisfaction. This satisfaction varies depending on the perceived quality as a result of their individual expectations and perceptions (O'Shaughnessy and O'Shaughnessy, 2003). Thus, customer satisfaction is an important element of the emotional component. Common to all activities is necessary to measure, manage and improve brand value. Sport teams are no exception to this. A brand is the most valuable asset for the team sport industry (Bauer et al., 2005) because a team brand assumes the role of a partner in the relationships between clubs and their fans, sponsors, partners, investors and even shareholders.

One of the main interests of business today is to create conditions so that customers remain loyal and create strong ties with brands, generating satisfaction and confidence (Demo, 2010). Sports clubs are now seen as major brands that have their fans as special consumers, detaining advantages over other brands because a fan will never change his club by a rival (Rein et al., 2008). Kim et al. (2011) have created a scale that measures the quality of the relationship between a sports fan and his team, named SCTRQS – Sports-Consumer-Team Relationship Quality Scale, which will be adapted and used in this study.

Online marketing is an important vehicle to promote teams, considered an essential tool for sport marketing. In particular, social networks have been featured as one of the preferred communication channels in sport marketing (Ratten and Ratten, 2011). Most of the sports clubs have an official site and presence on various social networks (Ioakimidis, 2010). Moreover, sports marketing is one of the many business areas that today are engaging in the new media trying to competitively deliver their products and services to consumers (Askool and Nakata, 2011; Mangold and Faulds, 2009).

## **FIRST STUDY**

In order to get a precise comprehension of the Sporting CP's context and to support hypothesis formulation, a preliminary exploratory study was developed, based on semi-structured interviews to three leaders of Sporting CP and three managers of others Portuguese soccer teams. This study has as specific objectives to understand Sporting's brand image, compare the perspectives of managers and fans, understand sport managers expectations, and understand the impact of the new strategies and marketing initiatives, such as the use of social networks, on relationships with fans. As research questions, this study inquires about the new sport marketing communication strategies, new services recently launched, and how these strategies and initiatives generate customer satisfaction; as well as how social networks improve relationships with fans, and, finally, if Sporting CP brand has space to grow. Data collection was carried out using different forms of communication: physical presence, video calls, phone calls and email.

The Sporting's leaders considered that relationships with fans are a key issue for the success of team's image. Marketing strategies, products and services and, even, communication channels follow the objective to satisfy fans and to get close to them, whose suggestions are useful and essential to the team. To achieve strong relationships with fans and attract new fans are the priorities of team managers who are working on several benefits to offer team community, either through the club (e.g., events, tickets, services) or through partners and sponsors (e.g., merchandising, discounts). Close relationships are catapulted by the use of new technologies, which are considered essential for the club. The creation of daily use communication channels as the official site, Facebook or Twitter, were considered very important because fans can follow the team's news with live updates, use services or communicate with the community, and offer suggestions to the team. Although Sporting innovates with this channels, it still promotes traditional communication channels such as the official newspaper or Sporting TV. Club also gives importance to the traditional media so that team can reach each type of fan, even if geographically distant from its area.

The managers of rival teams corroborated most of the information and opinions of Sporting managers. The divergent issues were related to the fact that rival managers sustained that better sports results from direct competitors may affect the growth of Sporting's brand. Regarding to communication channels, sport marketing strategies and relationships between fans and team, rival managers sustained Sporting's decisions.

In sum, all managers consider that new sports marketing strategies and initiatives (e.g., etickets, Apps, merchandizing, promotion of non-sports events, website, or Sporting TV) generate satisfaction, and the investment in social networks improves and strengthens relationships with fans. Is was also considered that Sporting brand still has space to grow nationally and presents potential to grow at an international level.

## HYPOTHESES OF STUDY

The focus of this investigation is to check whether the expectations of Sporting managers match the perception of fans regarding products and services offered, in particular some new services recently launched, marketing communication strategies and initiatives followed, and respective benefits. In particular, study intends to inquire if website and social networks have impact on the relationships that fans establish with the team.

Based on the literature review and on the first study, four hypothesis of study were formulated:

**H1:** The continuous usage of the team's new services positively influences relationship strength with fans.

**H2:** The presence of team in social networks positively influences relationship strength with fans.

**H3:** The fans living outside team's geographic area show lower scores of relationship strength than fans living in the team's geographic area.

**H4:** Team's communication channels have a lower effect on the relationship strength with fans living outside team's geographic area comparing to fans living in the team's geographic area.

## METHODOLOGY

### *Participants*

A sample of 787 Sporting fans was obtained. The sample was divided in 2 groups: Group A consisting of participants living in Lisbon area (n = 307), and Group B consisting of participants living outside Lisbon area (n = 480). Different ages, genders and "fan condition" (1 = "I sympathize with Sporting"; 2 = "I am a Sporting fan, but not an associate"; 3 = "I am a Sporting associate"). It is worth to note that associates, under a payment fee, benefit from several services (e.g., special places to assist to games, participation in sports) and advantages (e.g., ticket discounts).

### *Measures*

To measure the quality of team relationship it was used an adapted version of SCTRQS scale. This scale seeks to assess the relationship strength of a fan with his team (Kim et al, 2011). SCTRQS scale is multi-factorial, composed by five dimensions: Trust, Commitment, Intimacy, Self-Connection and Reciprocity.

### *Procedures*

Questionnaires were developed in Google documents tool and collected on-line. The first part of questionnaire inquires about personal data of participants such as gender, age, occupation, fan condition and geographic location. Then a group of 18 dichotomous questions were placed (0 = "No"; 1 = "Yes") in order to assess fans' opinions on several marketing initiatives and services of the club and referred in the interviews in the first study. The objective was to ascertain if fans attributes importance and relevance to these issues as sports managers expected. The last part of questions was related to SCTRQS scale, in a total of 14 interval scales, anchored using a Likert type measurement approach of 5 points, between (1) "strongly disagree" and (5) "strongly agree".

## **RESULTS**

Parametric Tests (T-TEST), Univariate Tests (ANOVA, ANCOVA) and Multivariate Tests (MANOVAS, MANCOVAS) were used to test hypotheses. The hypotheses were considered acceptable at a statistical level of  $p$  equal to or less than 0.05.

### *Reliability and normality*

Reliabilities were calculated, through Cronbach's alphas coefficients, based on SCTRQS scale items (Kim et al, 2011). Acceptable internal consistency was achieved for the Trust, Intimacy, Self-Connection and Reciprocity dimensions, where Cronbach's alphas ranged from .76 to .87. Commitment dimension had a Cronbach alpha of .68, very close to the minimum of .70 recommended by DeVellis (2003).

The five dimensions on the SCTRQS scale did not follow a normal distribution;  $p < 0,001$ , which constrains the use of parametrical tests. But, since  $n = 787$  (more than 30) parametric tests like T-TEST is acceptable (Pestana and Gageiro, 2003).

### *Hypothesis tests*

**H1** tests whether the latest services available to fans (e.g., etickets, team's Apps, team merchandizing, promotion of non-sports events) had the expected adherence and success as Sporting leaders reported, and if those services have a positive impact on the relationship of fans with the team. According to the four T-TESTS performed, the differences between groups are statistically significant at the level of relationship strength (SCTRQS scale) score. Data indicates higher relationship scores for the fans that use the service, in all cases, confirming **H1**.

**H2** tests the influence of social networks in the relationship of fans with the team. Two MANOVAs tests were performed, assuming as dependents variables the five SCTRQS dimensions and as factor



the dichotomous variable SocialNetworkPage (0 = “I do not have the Sporting page of Facebook/Twitter added to my account”; 1 = “I have the Sporting page of Facebook/Twitter added to my account”). Statistically significant tests were obtained for both social networks. While Facebook team’s page has a statistical significant impact on all dimensions of SCTRQS scale, Twitter team’s page impacts all dimensions except Self-Connection. Moreover, fans that have Sporting’s Facebook/Twitter page added score higher on relationship dimensions, confirming **H2**. Two more factorial MANOVA were performed, for the same dependent variables, assuming as independent variables SocialNetworkPage and Geographic Location. No statistically significant results were obtaining, indicating that no differences were found between Group A and Group B, relating to the impact of the use of team’s Facebook/Twitter page on the relationship strength dimensions.

**H3** tests whether the Geographic Location of fans influences relationship with the team. MANOVA tests, using SCTRQS scale dimensions as dependents and Geographic Location as factor, indicated statistically significant differences between groups for Trust and Reciprocity dimensions. For these variables, the average of Group B is superior to the Group A. Thus, fans living outside Lisbon area evaluate more favorably their relationships with Sporting, rejecting **H3**. These results are in line with the information gathered with Sporting managers, that revealed that huge marketing efforts have been invested on reaching audience and reinforce attachments with Sporting fans living in different parts of Portugal and abroad.

**H4** tests the impact of club's communication initiatives (i.e., Sporting TV and team’s website) on the different groups of fans. Two factorial MANOVA were performed, assuming the five SCTRQS dimensions as dependent variables, and as factors the Geographic Location and the dichotomous variable CommunicationChannel (0 = “I do not assist to/visit the Sporting TV/Website”; 1 = “I assist to/visit the Sporting TV/Website”). Both models showed statistical significance. Of the variables tested, only statistically significant differences were obtained for Commitment dimension, in the case of website; and for Trust dimension, in the case of Sporting TV. In both cases, Group B scored higher for Commitment and Trust, in contrast with **H4** statement. Thus, **H4** was rejected. Again, this result was in line with Sporting managers efforts to reach more distant fans.

The effect of other variables (as covariates) in the models above described shows that, for instance, gender influences relationships with team, except for social networks. The high number of men compared to women, in the sample under study (a sample mostly collected on online Sporting communities) might indicate that it is still necessary to explore initiatives adapted to female preferences, as different merchandising alternatives, creating new events or new content on the official website and Sporting TV. Age affects fans’ relationships with team, except on the Facebook social network. In this case, there is the need to adapt the club initiatives, products and services to different

ages. Fan condition also influences relationship with the team in all the variables, where associates showed the higher relationship scores, followed by other team fans.

## CONCLUSION

There is some correspondence between the expectations of club leaders and information collected through questionnaires about fans satisfaction. Most of the marketing strategies and initiatives are well received by fans, which may indicate well succeed marketing decision have been taken. However, they still have to develop the less successful marketing decisions (for instance, to capture female audience) and be updated with the different needs that constantly come up with fans. Social networks won their space in sport marketing, which is clear in Sporting case. Sporting looks to be an innovative club with presence in the most visited social networks. At the same time, the club developed their official newspaper and TV, as they give importance to the traditional media, important to build brand awareness, with impact on the team's brand value.

To establish strong relationships with fans is one of the team priorities. Based on the managers' interviews and on the questionnaires given to the fans, it's possible to understand that the majority of marketing strategies and services and communication channels seems to positively impact fans' relationships with team. Sporting is not just a Lisbon team, it's a Portuguese team with international representation. This reality forces club managers to improve strategies and initiatives to reach fans who live away from Lisbon.

From this investigation, it appears that Sporting brand still has space to grow, domestically and internationally, through the establishment of strategic partnerships with different entities, the sale of official merchandising and product licensing or through sports marketing innovative strategies, in line with innovative communication channels, besides sports results, especially of the professional soccer.

This study becomes relevant to the management of soccer clubs since, first, addresses an issue that is essential for the management of a sports club: the relationship with their fans. Without fans a club does not make sense, they are its greatest strength, they are always present in good and bad times, have an emotional attachment to the club that expands loyalty to levels that few brands are able to match. Second, it portrays the importance that social networks have gained in the management of a club. This study refers specifically to Facebook and Twitter, where every major international clubs already have official pages, but it should be noted that the characteristics of these networks mean that today you can find clubs exploring different networks, such as Instagram, Google+ or Snapchat. Social networks create a direct link to other online platforms increasingly developed by the clubs, as the case of Youtube, Spotify, blogs and official forums. There is a whole new world associated to new technologies that football clubs should explore as a way to expand their brand, advertise their

products and services, and reach fans. It should also be noted that social networks and online communities allow enhancing business and partnerships, it is quite easy and intuitive to the association of two or more brands to certain campaigns. However, it should be noted that the importance of these communication channels should be combined with the maintenance and updating of other channels such as the website, television or the club's official newspaper and, if possible, to independent media that are daily published information about the club, available nationally and internationally.

In sum, this study reveals the importance that club's strategies and marketing initiatives have on their relationship with fans. All events, services, merchandising, campaigns, etc. must be studied in detail in order to achieve targeting fans, such as fans that are geographically distant from the club, different genders, different ages, etc. The trust, commitment, familiarity, connection and reciprocity of fans should be a priority in sports management, particularly in large clubs that have to adapt their strategies, initiatives, communication channels and benefits to different groups of fans.

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## PROSPECTS OF REGULATING CAR USE IN RUSSIA BY MEANS OF TAXATION

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### ABSTRACT

The paper analyzes changes in car use in Russia that have occurred over the past 25 years due to accelerated vehicle ownership expansion. A conclusion is drawn that the state needs to create fiscal instruments to regulate people's interest in owning and using cars.

Substantiation is provided for an idea that it might be useful to introduce a classification that divides transport taxes into fixed and variable ones with regard to the intensity of car use. The basic assumptions and methodological provisions for calculating the cost of owning a car are given. The structure of the costs of owning a car in Russia is presented. A conclusion is substantiated that two types of costs are prevalent in the structure: depreciation and insurance (mandatory and voluntary). At the same time, taxes do not exceed 13 percent of total ownership costs regardless of the vehicle class. The structure of taxes in car ownership costs is presented.

A conclusion is substantiated that fixed taxes dominate among transport taxes, and their share grows for pricier cars. The share of variable taxes in Russia is insignificant and tends to go down for pricier cars. Arguments are provided in favor of increasing the variety and fiscal impact of variable transport taxes that should have a bigger share than fixed taxes, in order to increase their power to regulate car owners' behavior. It is advisable to increase the fiscal impact of variable taxes by introducing various distance-based tolls.

**Keywords:** *transport taxation, cost of owning a car, fixed transport taxes, variable transport taxes.*

### INTRODUCTION

People in the Soviet Union viewed cars not as a means of transport, as was the case in Europe, but as a luxury. Only members of elite groups had their own cars. Things have changed drastically over the past 25 years. Three main trends have emerged in Russia as regards car use.

The first one is that cars are now affordable to a wider population. As a result, Russia was swept under by an accelerated and uncontrolled growth of the car fleet. The number of cars has grown almost five-fold over this time, mostly due to an explosive increase in the number of privately owned vehicles. Ninety-five percent of cars are owned by individuals.

The second trend is an accelerated growth in residential and commercial building construction in cities that is not accompanied by the appropriate expansion of parking spaces and urban road networks.

The third trend is a significant transformation of the structure of passenger traffic. Over the past 25 years, passenger traffic on railroads, buses and trams have gone down by more than 50 percent. Public transport modes have been replaced with cars.

Along with positive externalities, the explosive development of auto transport has brought about new public expenditures on correcting negative externalities caused by the increase in car use. The non-reimbursable expenses that the government has to bear stem from the allocation of a substantial portion of land in cities for the purposes of road construction; the need to build and maintain road infrastructure; high road accident rates and environmental pollution; road wear, and congestion. The expenditures are paid for with local taxes, including those levied on people who do not own a car. The expenditures tend to grow year-by-year.

The state needs to create instruments that would regulate people's interest in owning and using a car. Fiscal instruments are internationally recognized as the most effective ones. They provide the strongest motivation to motorists, encouraging them to evaluate the costs and benefits of owning and using a car. The article aims to analyze the structure of taxes in the cost of car ownership and to propose recommendations for changing the structure in order to intensify tax regulation of car use in Russia.

## RESEARCH METHODS

Analysis of foreign works on the matter shows that an optimum comprehensive system of transport taxes should incorporate two groups of mandatory levies (European, 2003).

1. Fixed taxes. The tax rates are not pegged to the intensity of car use, which means they do not directly involve the car owner in compensating for negative externalities. Yet their size is a determining factor in the affordability of a car; it influences the level of car ownership in society and the desire (of individuals in the first place) to own a vehicle. High fixed taxes could be used as an instrument of shutting out some people (usually those with low income) from owning a car and, consequently, from driving one. Theory-wise, fixed taxes are essentially Ramsey taxes and ensure certain tax revenues for the government from car owners (De Borger & Mayeres, 2007).

The application and scientific foundation of fixed transport taxes have long been of interest to researchers. Quantitative substantiation of the size of the taxes can be found in the works by J. Dupuit,

who was a member of the Ecole Nationale des Ponts et Chaussee. According to him, transport taxes are the price of using public services that is determined in terms of the surplus method. The taxes are an instrument of collecting consumer surplus that contributes to the funding of public infrastructure, while demand for trips is a function of fares and tolls and other transport taxes (Coevering & Schwanen, 2006), (Derycke, 1998).

2. Variable taxes the amount of which is determined by the intensity of car use. In this case, the size of transport taxes should reflect the tax price of negative externalities, while each car owner should pay an amount that is equivalent to the total of negative externalities caused by the operation of his/her car. A sophisticated system of variable taxes makes it possible to effectively administer the process of recovering marginal external costs while precisely factoring in all kinds of impact. Foreign studies show that in the case of the absence of fixed transport taxes, the amount of variable taxes is higher than marginal external costs. This makes it possible to also ensure a positive Ramsey component in taxes. From the theoretical perspective, this group of taxes are Pigouvian taxes (Clarke & Prentice, 2009), (Litman, 2009).

British scholars led by A. Pigou believed that the size of variable transport taxes is determined by the size of external social costs of using transport, and that taxes are a way of internalizing the externalities. A more comprehensive approach to defining the quantitative characteristics of the system of transport taxes was proposed by W. Vickrey. He considered transport taxes to be a universally applied charge for the use of the road network that depends on the time of day and is calculated using a system of electronic tolling. Vickrey was the first one to substantiate the idea of controlling the demand for car travel by imposing variable transport taxes. Vickrey suggested that toll rates should vary with when and where the road network is used. Vickrey explained that such charges (later referred to as Vickrey's Toll) would suppress the demand for roads because many drivers would instead use public transport. Those who are ready to use the road network without congestion will have to pay a fair price for it (Vickrey, 1963), (Vickrey, 1963).

We shall look at how these groups of taxes are represented in vehicle taxation in Russia. For this purpose, we shall analyze the cost of owning a car and examine the structure of tax costs incurred by car owners. We have selected three car classes for the analysis (compact cars represented by the Hyundai Solaris; business segment represented by the Mercedes E20, and compact crossovers such as the Toyota RAV4) in their basic configurations with automatic transmissions.

When analyzing the cost of owning a car we make the following assumptions. The car is in use for three years (before the warranty expires) in a large city in Russian for non-business activities. After that, the car is sold, thus enabling us to put the annual depreciation, which is the difference between the price of a new car and the price of an identical three-year-old vehicle, into calculations.

Data on the selling prices of three-year-old cars are borrowed from a PwC report. Other expenses include the cost of buying winter tires and other consumables for the day-to-day operation of the vehicle. Parking fees are not factored in (we assume that free parking options are available in Russia at the moment).

The following taxes paid by car owners in Russia were included in the calculations: VAT and excises duties that are paid on a one-off basis when a new car is purchased; the car recycling fee and the registration fee that is paid on a one-off basis when the car is registered with the traffic police; annually paid vehicle tax; fuel tax that is included in the price of fuel. We suggest ignoring the VAT on goods, works and services purchased in connection with the running of the car (Mayburov & Leontyeva, 2015).

To determine the annual amount of taxes paid at the moment of purchasing a car, we suggest performing the calculations in proportion to the depreciation of the car, assuming that the remaining part of taxes will be refunded to the owner once he/she sells the car. At the same time, writing off expenses in annual proportions is a conventionality.

Indicator	Compact car (Hunday Solaris)	Compact crossover (RAV 4)	Business class (Mercedes E20)
Car depreciation	23,0	35,0	51,1
including recycling fee	1,8	1,3	1,0
VAT	3,2	4,9	7,4
registration fee (annual mean)	0,5	0,4	0,2
sales tax	0,2	1,7	1,6
Fuel	29,5	21,1	8,9
including fuel tax	3,8	2,5	1,1
Mandatory and voluntary insurance	35,7	33,0	32,2
Taxes, fees and other mandatory charges	0,7	1,4	1,7
including vehicle tax	0,7	1,4	1,7
Maintenance	6,5	4,1	3,2
Other expenses	4,6	5,5	2,9
TOTAL	100	100	100

Table 1. Structure of car ownership costs in Russia, %

## ANALYSIS OF THE RESULTS

The results of the calculations are presented in Table 1.

At present, two types of costs prevail in the structure of car ownership costs- depreciation and insurance (mandatory and voluntary). The share of these expenses for a compact car is 58.7 percent, for a premium car it may be up to 83.3 percent. At the same time, for the most expensive premium and business cars the share of value depreciation in total ownership costs considerably exceeds insurance



expenses. The total amount of taxes averages 10 to 13 per cent of car ownership costs regardless of the vehicle class.

We shall now analyze taxes and other duties, dividing them into fixed and variable ones (Table 2).

Indicator	Compact car (Hunday Solaris)	Compact crossover (RAV 4)	Business class (Mersedes E20)
Fixed taxes, including	6,4	9,7	11,9
VAT on cars	3,2	4,9	7,4
recycling fee	1,8	1,3	1,0
registration fee	0,5	0,4	0,2
yearly paid excise duties on automobiles	0,2	1,7	1,6
vehicle tax	0,7	1,4	1,7
Variable taxes (fuel taxes)	3,8	2,5	1,0
TOTAL taxes and mandatory charges in the cost of car ownership	10,2	12,2	12,9

Table 2. *Structure of taxes in the costs of owning a car, and their classification, %*

The analysis enables us to conclude that fixed transport taxes prevail in Russia and that their share grows in the case of pricier cars. At the same time, the share of variable taxes is insignificant and tends to decrease for pricier cars.

In order to increase the power of taxes to regulate car owners' behavior it is necessary to increase the variety and fiscal impact of variable transport taxes. They should have a bigger share in costs than fixed taxes. This can be done by introducing various distance-based tolls.

Such modern tolls, for example a federal road toll imposed on heavy trucks exceeding 12 tons of gross vehicle weight, are already being introduced in Russia. It is necessary to gradually expand the application of such fees to cover other types of vehicles.

Russian Federation must develop new fiscal instruments that would meet the following fundamental requirements:

- (1) toll revenues must be spent strictly on the objectives of transport policy in the urban agglomeration where the road system was used;
  - (2) tolls must be levied according to the distance travelled and be related to the type of the road (federal, regional or municipal);
  - (3) the charge should vary depending on the day of the week and the time of the day (the highest during peak hours and a minimal charge during the rest of the day);
  - (4) the minimal charge should match the marginal costs of road use, while the maximum rate should also include a surcharge. The surcharge would balance demand for the road network and its capacity.
- Such an approach to toll setting is outlined in the 2003 recommendations of the Council of the European Union and has already been successfully tried and tested (European conference of Ministers of transport, 2003).

It is critical to make sure that as a result of the introduction of road tolls the collected money is spent on improving road networks and is subject to public control. Increasing the fiscal impact of variable transport taxes will make public transport more appealing as an alternative to automobiles, thus spurring its development.

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## STRATEGIC RENEWAL, ACQUISITIONS AND AMBIDEXTERITY

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### ABSTRACT

Mergers and acquisitions literature is replete with integration models that depict the integration choices and associated solutions by simplifying the relationship between the merging companies into the two overarching concepts of strategic and organizational fit. The resulting integration models have proven to be too coarse-grained to capture the full spectrum of integration demands and related choices. There is an emerging awareness among M&A scholars that effective integrative solutions are far from these idealtypes and require hybrid approaches. This is even more evident when one analyzes acquisitions as a means to reconfigure strategic resources and capabilities. Seen in this light, the enduring classification of acquisitions as related or high technology loses its explanatory power and meaningfulness. In this paper, I have distinguished between high tech acquisitions as motivated by technological component or standalone product. In the former case, the need for interdependence is higher than in the latter case and this implies the importance of finding more balance solution between autonomy and integration. In this context, contextual ambidexterity may represent a key capability to solve these competing demands and pursue a more effective integration between the merging companies. Integration leader and integration mechanisms help finding proper answers to single integrative demands within the overarching integration model.

**Keywords:** *mergers and acquisitions, M&As, integration models, high technology acquisitions, related acquisitions, ambidexterity, contextual ambidexterity, strategic renewal*

### INTRODUCTION

Mergers and acquisitions (hereafter M&As or acquisitions) have demonstrably served as mechanisms for multiple strategic goals, from pursuing growth to enabling innovation, from achieving synergies to entering new markets. Despite ambiguous evidence about their success rate (King *et al.*, 2004; Risberg and Meglio, 2012), acquisitions remain a maneuver of choice for top managers around the world. One reason for their popularity may be that they are recognized as an important tool for incremental strategic renewal (Agarwal and Helfat, 2009). By associating acquisitions to strategic renewal, strategic management scholars outline the role acquisitions play in accessing, refreshing or replacing resources

and capabilities, or technologies (Capron and Mitchell, 2009; Puranam *et al.*, 2009). Seeing acquisitions as a means to pursue strategic renewal implies to analyze the integrative demands in the light of the relationship between the resources and capabilities of the merging companies. The resulting classification is, we contend here, more meaningful than the traditional acquisition typologies based on the degree of relatedness between the merging companies. Instead of classifying acquisitions as related or unrelated, we focus on the relationship between the resources and capabilities that may be categorized as overlapping or complementary. Such classification enables a more nuanced understanding of integrative demands and effective solutions. In case of overlapping assets the integrative demands involve eliminating redundancies, which may in turn create organizational turmoil. In presence of complementary assets between the merging companies, the integrative demand is lower as complementarity reduces the need of eliminating duplications or overlapping functions and decreases the risk of organizational turmoil. This circumstance nonetheless requires a particular care to concurrently exploit the existing resource endowment and explore the new and augmented resources and capabilities base.

Whatever the level of integration effort required to the acquiring company's top management, the need to achieve balance between exploitation and exploration might be effectively handled by relying on ambidexterity, which may provide an integrated solution to these competing demands. In this paper, I build upon and extend previous work on ambidexterity in acquisitions (Meglio *et al.*, 2015) to examine how ambidexterity may shape the integration process at multiple levels of analysis, the organizational, the group and the individual levels. I achieve this aim by integrating two different research streams: post-acquisition integration and ambidexterity literature. In doing so I contribute to a more nuanced understanding of integrative demands and associated solutions in post-acquisition integration process and to examine the ambidexterity construct at multiple levels of analysis in an acquisition setting.

The paper is structured as follows. Next I review relevant research streams. Then I develop a typology of integrative demands and ambidexterity solutions at different levels of analysis. Limitations and implications for research and practice are discussed in the concluding section.

## **THEORETICAL BACKGROUND**

In this section I briefly analyze acquisitions as a means for strategic resources and capabilities reconfiguration and discuss its effects in terms of integrative demands. Next, I introduce the concept of ambidexterity as a tool to achieve resources and capabilities reconfiguration during the integration process.

*Acquisitions, resources and capabilities reconfiguration and integrative demands*

Acquisitions have long been investigated by strategic management scholars. The recognized inherent complexities of acquisitions has led scholars to develop typologies of acquisitions primarily for research purposes but also to draw more effective managerial implications and help practitioners to integrate the merging companies. One of the most enduring classifications is the one that distinguishes between related and unrelated mergers and acquisitions (see Larsson, 1990 for a critical reflection on the Federal Trade Commission classification). The degree of relatedness is a longstanding construct in M&A research and has been extensively employed to study the relationship between the merging companies and post-acquisition performance (e.g., Datta, 1991). A high degree of relatedness means high potential synergies (Carow *et al.*, 2004) that demand longer execution especially in presence of organizational turmoil, which is very likely if achieving cost synergies requires elimination of redundancies and personnel layoffs. For cost savings, the considerations are likely similar for either unrelated or related acquisitions. For example, a combined firm will only need one Chief of Financial Officer. Meanwhile, there is a difference in how revenue improvement will be achieved. Unrelated targets have less interdependence that allows lower levels of integration and simplified planning (Coff, 2002). In contrast, related acquisitions derive value from coordinating interdependencies, integrating target resources, and divesting excess capacity (Barkema and Schijven, 2008).

Over time, parallel to the blurring boundaries among industries, the concept of relatedness has lost its meaningfulness and has been progressively replaced by the notion of fit (strategic, organizational and cultural). This concept is more nuanced than relatedness as it enables taking into account benefits arising from complementary resources. In this regard, more recent research suggests that combining firms that are dissimilar or balance strengths and weaknesses are most likely to create value (Harrison *et al.*, 2001; King *et al.*, 2004; Slotegraaf and Kesner, 2008). Strategic acquisitions that combine complementary resources may probably experience less troubles in the integration phase than acquisitions that build on overlapping resources that are expected to require a more complex integration process.

Akin to this portrait is the view of acquisitions as tools for reconfiguring resources and capabilities (Capron, 1999; Capron and Mitchell, 2009). Proponents of this view contend that the gap in resources and capabilities represents a main driver for sourcing decisions. Specifically, Capron and Mitchell (2009) offer an integrative framework that builds upon the resource gap attributes. They identify in the resource gap, such as that emerging from a rapid technological change, along with severe social frictions, the two conditions that make acquisitions a suitable and effective tool to renew company's capabilities and avoid the time-consuming and uncertain process of internally accumulating them (Dierickx and Cool, 1989). Such a view enables the acknowledgment of the dual components of task

and human task and human integrations in a post-acquisition context (Birkinshaw *et al.*, 2000), which often experience tensions between time and method of integration.

In case of complementarity assets (resources and capabilities), the integrative needs shift from the elimination of duplications, typical of purely related deals, to finding an optimal balance between different, although interdependent resources and capabilities. In such circumstances, Meglio *et al.* (2015) contend that the traditionally preservation–integration dilemma is ill suited to capture the spectrum of integrative solutions to apply, which often result into a hybrid approach (Schweizer, 2005). In his examination of acquisitions involving pharmaceutical and biotechnology companies, Schweizer (2005) finds that it is necessary to combine integration typologies into a hybrid approach. This reinforces the belief that the integration process requires ambidexterity to resolve conflicts from integrating what is old and new, to preserve tacit knowledge embedded in talented people, or to foster innovation while achieving efficiency through cost reduction. Meglio and colleagues (2015) suggest to analyze the integration process through the lens of contextual ambidexterity as it renders justice to alternate paths through conflicting goals and time frames for task and human integration.

The need for ambidexterity is particularly salient in high technology acquisitions that face choices between exploitation and exploration or incremental and discontinuous innovation. (e.g., Benson and Ziedonis, 2009; Graebner, 2004; Kang and Snell, 2009; Ranft and Lord, 2002; Phene *et al.*, 2012). In these contexts, the pressure for innovating pushes companies to access external flows of knowledge and to accelerate the internal transfer of knowledge across multiple hierarchical levels of combining organizations. Acquired external knowledge is intended to accelerate an acquirer's innovativeness by exploiting internal knowledge (DeCarolus and Deed, 1999; Kogut and Zander, 1992) and by exploring a greater magnitude of resource combinations from a shared knowledge base (Phene *et al.*, 2012). These acquisitions require, on the one hand, to be granted a certain degree of autonomy and, on the other hand, a certain degree of structural integration, depending on whether they are motivated for component technologies or for standalone products. I borrow the concept of structural integration (distinct from post-merger integration in general) from Puranam *et al.* (2009). These scholars contend that structural integration refers to the combination of formerly distinct organizational units into the same organizational unit and involves a formal design choice concerning the “grouping” of organizational units. The structural integration is a discrete decision about grouping units together within common organizational boundaries and precedes non-discrete decisions about the use of “linking” mechanisms between organizational units (such as the alignment and standardization of processes and systems, common hierarchical control, cross-unit teams, and integrating managers). This concept is consistent with the idea of distinguishing the integration choices and associated

solutions at different levels of analysis and ensures a more fine-grained representation of the integration process.

Whatever the motive behind a high tech acquisition (acquiring component technologies or standalone products), both types may create value for the acquirer, yet the extent of interdependence (and therefore coordination necessary) between the acquiring and target firms is higher in the former than in the latter. Thus, even if different acquisitions are alike according to existing typologies, namely high tech acquisitions, these typologies are too coarse grained and tend to lump together situations that may vary a great deal.

Below, I propose that contextual ambidexterity may provide an integrated solution to effectively handling structural interdependence between merging companies while concurrently solving competing demands of exploitation and exploration.

#### *Ambidexterity in acquisitions*

Since Duncan's article in 1976, the metaphor of organizations being equally dexterous at using both hands—referred to as organizational ambidexterity—has been employed to reconcile multiple, competing organizational demands (Simsek *et al.*, 2009; Lavie *et al.*, 2010) due to its versatility (Birkinshaw and Gupta, 2013). Over time, ambidexterity has been employed to address tensions between exploitation and exploration (March, 1991); tensions between incremental and discontinuous innovation (Tushman and O'Reilly, 1996); tensions between the capacity to achieve alignment and adaptability simultaneously (Gibson and Birkinshaw, 2004); tensions between market and political capabilities (Li *et al.*, 2013). Recently, Meglio and colleagues (2015), following this tradition, apply ambidexterity to trade-offs between task and human integration in acquisitions.

In the ambidexterity literature, solutions for balancing competing demands may take the form of structural, temporal, or contextual ambidexterity (O'Reilly and Tushman, 2013). *Structural* ambidexterity requires physically separating units with different orientations to different locations (Benner and Tushman, 2003). *Temporal* ambidexterity suggests that conflicting goals can take place within the same business unit, but only in a cyclical or sequential manner (Siggelkow and Levinthal, 2003). If competing demands are seen as orthogonal, or capable of co-existing, tensions can be best addressed by *contextual* ambidexterity that involves simultaneously pursuing conflicting demands using organizational processes and managerial intervention to achieve the needed balance (Gibson and Birkinshaw, 2004). Contextual ambidexterity refers to the routines and processes used by organizations to mobilize, coordinate, and integrate dispersed exploratory and exploitative efforts and to allocate, reallocate, combine and recombine resources and assets (Jansen *et al.*, 2009).

In the acquisition integration context, this is primarily achieved through integration leadership and integration mechanisms that help to concurrently achieve task and human integration (Meglio *et al.*,

2015). As such it involves the organizational, the group and the individual levels of analysis. In the next section I analyze the contribution of contextual ambidexterity for high tech acquisitions at different levels of analysis.

## **CONTEXTUAL AMBIDEXTERITY: A PANACEA FOR HIGH TECH ACQUISITIONS?**

As discussed above, high tech acquisitions may be considered as an umbrella label under which one can find acquisitions varying a great deal. Motives are among key factors explaining such variety, but also several contextual conditions, for example the nature of interdependence between resource and capabilities, or the existence of a common ground between the merging companies that have been found to profoundly affect these deals (Puranam *et al.*, 2009). Puranam and colleagues (2009) have outlined that the nature of interdependence influences the integrative demands and in turn the mechanisms to rely upon to minimize disruption while achieving the desired level of structural integration. Meanwhile, the common ground determines the contextual conditions in which the integration process takes place and, in turn, influences the easiness of the integration itself. As discussed above, acquisition scholars tend to describe the integration solutions focusing on the organizational level of analysis. At the organizational level of analysis they identify integration models such as autonomy or absorption. These models, as discussed above, are too coarse-grained and do not capture hybrid solutions that could work at lower levels of analysis such as the group or the individual. Therefore I suggest that within integrative models, integration leadership and integration mechanisms may help achieve hybrid solutions. Integration leadership and mechanisms represent the building blocks of contextual ambidexterity in a post-acquisition context (Meglio *et al.*, 2015).

Integration leaders, as described by existing literature, lead and coordinate the integration process. An integration leader plays multiple shifting roles beginning with organizational maverick to promote a cooperative atmosphere; a shift to transformational leader can help to sustain commitment; a later move to serve as an organizational buffer alleviates pressures on integration teams; and a final role of network facilitator bonds previously separate personnel and divisions (Dagnino and Pisano, 2008). Seen in this light, an integration manager's roles contribute to contextual ambidexterity between merging units to facilitate structural integration. This can prove an effective solution if the degree of integration between the merging companies is low as in the case of an acquisition motivated by a stand-alone product. Autonomy can also be used as an intermediate step towards a deeper structural integration. In such a case, temporal ambidexterity may be seen along a sort of continuum, from autonomy to absorption.



If the technological component need to be integrated into the acquiring company, then integration aims to create a common set of goals and procedures to pool resources and capabilities together. By doing this, structural integration increases the predictability of actions of merging parties employees (at all levels, from the shop floor to the R&D laboratories), yet it may also bring about disruptive effects.

Along with the introduction of unifying formal systems and procedures in the merging companies, informal organizational processes also shape the integration process. These informal processes aid knowledge transfer through the creation of a common ground, informal communication channels, and group identity (Puranam *et al.*, 2009).

An integration leader may help achieve balance formal and informal integration by contextual ambidexterity if she relies on a proper set of integration mechanisms that help to address competing demands at multiple levels of analysis, the individual, the group (imagine a team of scientists into a R&D lab) or the organizational level. Integration mechanisms represent the micro-mechanisms through which tensions between exploitation and exploration in post-merge integration are balanced. The idea of investigating the integration process as a coordination problem dates back to Larsson (1990) and has been more recently revamped by Puranam and colleagues (2009) who outline that the integration process involves choosing from a repertoire of integration mechanisms depending on the kind of interdependence the integration manager has to deal with (sequential, pooled or reciprocal, according to Thompson's classification, Thompson, 1967).

In case of acquisitions motivated by a technological component the interdependence is expected to take the form of pooled or reciprocal and this means balancing between structural integration and the creation of a common ground. This balance requires an integration leader to act as a change agent and as a network broker, following Dagnino and Pisano's (2008) classification. In terms of integration mechanisms, while formal planning and the standardization of procedures and information systems improve the coordination, socialization, mutual consideration and human resource systems are more suitable to create a common ground. Socialization can be conceived as "the creation of a shared identity, the establishment of trusting relationships, and the absence of divisive conflicts between the members of the combining organizations" (Björkman *et al.*, 2007: 5) and is eminently aimed at avoiding employee dis-identification that is counterproductive to coordination in organizations (Smith *et al.*, 2013). Cultural seminars, as documented by Vaara (2003), are one possible way to achieve socialization. Another option is training that can foster organizational learning and knowledge transfer (Kase *et al.*, 2009; Prieto and Perez-Santana, 2012). Alternative social integration mechanisms are personnel rotation, short-term visits, participation in joint meetings, and membership in cross-unit teams, task forces, and committees (Björkman *et al.*, 2007). Socialization is facilitated by mutual

consideration to decrease conflict by focusing employees on tasks and not politics by using cultural seminars (Vaara, 2003) and communication to minimize employee resistance (Risberg, 1999). HR management generally emphasizes reducing conflict and relationship formation that can hinder (at least initially) post-merger integration. These mechanisms work particularly well in transition teams, ad hoc group that deal with specific integrative tasks while also favoring cultural socialization (Sarala *et al.*, 2015).

HR management covers a comprehensive set of tools to deal with personnel issues, such as career planning, keeping talented people, and instilling new competences through training programs (see Weber and Tarba, 2010). Acquisitions can have multiple impacts on an individual's career including the temporal sequence of work positions and activities over the course of an individual's life (Larsson *et al.*, 2001), and the feelings of ambiguity of how an employee's work efforts are to be rewarded in the new entity need to be mitigated (e.g., Risberg, 1999; 2003). For example, Patel *et al.* (2013) find that competing demands framed as alignment and adaptability can be addressed by HR management through fostering support and trust.

The preceding considerations highlight that within integration models different roles of the integration leaders along with the repertoire of integration mechanisms may play an important part in ensuring the attainment of integrative priorities at different organizational levels and within different organizational units, such as the R&D laboratories that are central in high tech acquisitions.

## DISCUSSION

Mergers and acquisitions literature is replete with integration models that depict the integration choices and associated solutions by simplifying the relationship between the merging companies into two overarching concepts such as strategic and organizational fit. These models, although simple and elegant, have proven to be too coarse-grained to capture the full spectrum of integration demands and choices. There is an emerging awareness among M&A scholars that effective integrative solutions are far from these ideal types and require hybrid approaches. This is even more evident when one analyzes acquisitions as a means to reconfigure strategic resources and capabilities. Seen in this light, the enduring classification of acquisitions as related or high technology loses its explanatory power and meaningfulness. In this paper, I have distinguished between high tech acquisitions as motivated by technological component or standalone product. In the former case, the need for interdependence is higher than in the latter case and this increases the importance of finding more balance solution between autonomy and integration. In this context, contextual ambidexterity may represent a key capability to solve these competing demands and pursue a more effective integration between the

merging companies. Integration leader and integration mechanisms help finding the proper answers to single integrative demands within the overarching integration model.

The application of ambidexterity in the acquisition context is still in its infancy yet it holds promises of further developments at theoretical level. The considerations developed in this paper should and could be further developed into a conceptual model and a set of propositions. In doing so, particular attention should be devoted to the measurement of key constructs, such as acquisition success or the relationship between resources and capabilities. A further conceptual development could also arise from enlarging the domain of application of ambidexterity to acquisitions in mature industries, such as the automotive or the steel industries, both heavily involved by huge consolidation processes. This analysis has also important managerial implications signalling the importance of appointing an integration managers or a team of integration managers early in the integration process. This research provides also important indications of the skills needed for the person recruited as integration manager and the tasks this manager needs to perform.

In closing, contextual ambidexterity is applied to acquisition integration to recognize increased nuances in integration decisions. Contextual ambidexterity enables managing conflicts between task and human integration during acquisition integration in high tech acquisitions to better recognize inherent complexities.

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## ADVANCES ON HOW CROSS-CULTURAL VALUES SPRING THROUGH TRADITIONAL FOOD ETHICS DEVELOPMENT

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### ABSTRACT

The purpose of the present research is to analyse the impact of the global crisis consequences over the Romanian market and consumption of traditional food, linked to some aspects of consumers' health and the ethics of those businesses. Romanian consumer is sensible to the traditionally and culturally aspect linked to food and the variety of internationally processed food available on the Romanian market grow substantially in recent decades. On one hand, technology made this possible, but on the other made the local consumer more cautious in preferring the highly processed food mainly due to health concerns, the toxicity of highly processed products used in the modern approaches of consumption, the lack of control and inadequate traceability of food products quality. When the public authorities ensure the optimal standard of quality and safety of food products, customers will feel reassured by this guarantee of the food they buy and the local food *underground* economy would substantially drop.

**Keywords:** *traditional products, model of consumption, economic crises, semi-subsistence farms, underground economy*

### THE EFFECTS OF ECONOMIC CRISES UPON THE QUALITY AND TRACEABILITY OF LOCAL TRADITIONAL PRODUCTS

There are many reasons for which a deep analysis of what people eat is necessary. Healthy and unhealthy diets are found everywhere in the world, no matter the policy or the development level of the country. The same happens in Romania where the health of the population is affected on a daily basis, due to the openness to a larger, highly technical market where the lack of experience and knowledge could not satisfy entirely the expectations.

General habits are not changing at the same rhythm as the versatility of the market and the ever increasing quantities of food brought to the local market either from or from national suppliers. With over 60% arable of its territory, Romania doesn't use its full local potential given by the land and imports large amounts of fruit and vegetables from countries with intensive agriculture: Turkey,

Holland, Spain, and Israel. The total imports of food increase significantly every year, amounting over three billion Euros in the last years.

The share of chemical fertilizers used in agriculture grew gradually, to the detriment of natural fertilizers.

Due to the incorrect management and abusive use of modern technologies, plants accumulate large amounts of nitrogen, which are converted to nitrogen and then in nitrosamines - substances extremely cancerous.

Disequilibria are present at economic and social level too. Under the temptation of a *fake* feeling: the modernism of western societies, people adopt different techniques, diets, experiences or style of living and make mistakes in the use of chemical fertilizers, insecticides and herbicides, additives in finished products, genetically modified organisms, the consumption of sugar and refined foods, meat and fat abuse or unnatural methods of preservation. The consequences are inevitable: dramatic changes of health indicators and a general pathology among all inhabitants.

Fruits and vegetables, as the most important sources of minerals keep the researchers, technologists and producers' permanent attention. The cultivation technologies, upgraded in order to produce record crops, have damaged many foods making them dangerous for health. Following the trends, our country imports fruits and vegetables especially from those countries where the agriculture technical are highly technologized: Netherlands, Turkey, Spain, and Israel. The explanation relies on the exporters' better technology and their use of chemical treatments to streamline production.

The fact that Romania possesses better soils for growing vegetables doesn't help anybody today: Romania manages to get up to 300 tons of tomatoes per hectare, while the Western countries productions double that. The same happens for apple, potatoes and celery.

With imported products in their daily basket, people tend to change the consumption behaviour too. The increase in prices of traditional products generated increase in the purchasers' choice for imported fruits and vegetables found in supermarkets, at lower prices. Consumers prefer price to the quality and that happens on their own health risk.

People working in agriculture in the past were using chemical fertilizers too until the December revolution came and agriculture took a slower speed. Unfortunately this process is not enough standardised and controlled, and leaves place to a chaotic application depending on producers' knowledge and interest. Therefore the levels of pesticide and residues found in food exceed the admissible limits set by the Administration for Environmental Protection. Apples are one category containing high pesticide quantities making their consumption very dangerous.

For marketing policy reasons, the food manufacturers use the idea of colour and size for a better sale of their products: huge peppers, brightly coloured and giant strawberries, tasteless apples and forever

fresh grapes crowd the stalls at cost very high. These vegetables, of which many are genetically modified, are exposed to ionizing radiation in order to maintain their freshness for longer time. In Romania, according to official statistics, 99% of imported fruits are irradiated. In 2001, the Government issued a legal decision governing allowed productions under ionizing radiation of production, import and food marketing and treated ingredients. The document requires the Ministry of Health to issue and keep permanently updated, the list of foodstuffs that can be irradiated together with the irradiation dose used in accordance with the European Community requirements and standards. Romanian producers follow specific chemical treatment instead of European norms for preserving food and many manufacturers in their race for profit prefer to ignore these norms by not taking into account the time delay needed for the fruits or vegetables treatment chemicals to become harmless. Food should be offered for sale only after 18-21 days since it was chemically treated, but no one control exactly if, indeed, producers meet this requirement. From this point of view, experts say that food irradiation is more appropriate than chemical treatment done inadequately.

The traditional baked products are also important due to their diversity, relish, taste and flavours (Valnet, 1981). Romanian traditional products especially the cooked ones, have a well-defined traceability, which leads to quality improvement, and consumers' security.

## **FOOD SAFETY AND TRACEABILITY**

Following the ISO standards for products and services and the traceability definition, the Romanian specialists consider the application of traceability of local food to identify origin, history or location. (Golan, Krissoff, Kuchler, Calvin, Nelson, 2004). Traceability is an important chain in the production, storage and commercialization processes of food in general and traditional ones in particular. The management of traceability along the alimentary chain implies the association of an informational flux together with the physical flux of detectable products. To obtain traditional products, the farmers use only natural ingredients, with no additives or chemicals" (Ioan, 2009). The home-made know-who of producing traditional foods has been transmitted from generation to another and historical documents and ethnological sources are proving it. . The traceability builds and demonstrates the real state of connectedness of any product, from the natural resources until the marketed product from the shop shelves. Specialists state that the local food principle of sustainability is relying on using and consuming those food products specifically based on locally grown resources (Ipate, 2010). Here, the traditional food is made from natural products, fresh ones obtained in recognized farms or processed by recognized recipes. To sustain this idea, we have analysed the traceability of hotchpotch of fresh vegetables – which is a traditional cooked dish, a sort of vegetarian stew, a mixture various vegetables cut into different shapes and tomato sauce, with red decor and finely chopped with green parsley



leaves. (A. Stroia, et al, 2011). The most used culinary preparation is the "*hotchpotch of fresh vegetables*" spread throughout the country. Vegetables are used in all possible combinations aiming to achieve a specific, subtle and appetizing flavour.

The secret to achieve a great culinary dish consists in respecting the right time and conditions for thermal treatment (blanching, tempering, stifling, cooking, and baking in the oven) for each processed vegetable; flavour with "*greenery*" and indigenous herbs. The vegetables, spices plants and processed food obtained from vegetable raw materials used to obtain the traditional culinary preparation of "*hotchpotch of fresh vegetables*" (A. Stroia, et al, 2011) are the following: green pepper, potato, yellow onion, cauliflower, pumpkin, bean peas, peas, carrot, parsnip, roots of parsley, tomato, celery, white cabbage, eggplant, green leaves of parsley and dill. The "*dish*" is prepared based on a "*synopsis of green vegetables*" grown and cultivated on the Romanian territory from thousands of years. Another observation refers to the fact that all ingredients found in the personal or local garden or at the farmers' market. With other words, Romanians always prefer the bargained and low price products, sometimes purchased from places where the fiscal economy is not at all present. Therefore such approach connects the traditional food to some ethical aspects too.

## **UNDERGROUND ECONOMY CASES IN ROMANIAN FRUITS AND VEGETABLES TRADE SECTOR**

The high level of social contributions paid by both the employer and the employee, the existence of illegal employment market, the high degree of poverty, the low level of subsistence in agriculture make people to look for low priced products, bought often at the street corner, in perishable, unhygienic and unhealthy conditions. The evolution of this phenomenon is an alarming issue brought to the attention of specialists working on fiscal and budget policy and to national development policy makers, economic forecast analysts, and of legal advisers, equally to prevent and reduce this scourge. The underground economy is still highly developed in the fruit and vegetables sector, mostly taking informal forms. The reduction of VAT and the new fiscal programs (national lottery) brought some improvements; however, the current economic climate due to lack of appropriate regulation still encourages illegal acts such as abusive behaviour, corruption, fraud or tax evasion.

The black market attracts, every year, billions of euros by smuggling of fruits and vegetables. In order to defrauding the state budget, large quantities of vegetables and fruits are introduced in the country illegally; they are transported, stored and sold at wholesale warehouses from the country without supporting documentation and by using fictitious companies managed by third parties, bringing huge damages to the state.

Methods of fraud are diverse: from fake recordings of transactions in accounting documents, to develop commercial activity through ghost companies ruled on behalf of homeless people whose identity was stolen, and VAT frauds or illegal incomes got from tax evasion. We retain here, the dominance of importations of both vegetables and fruits under some groups' interest, with the support of local authorities who organised the tax evasion, and the disregard of anti-competitive practices, all of their own profit increase. There is another technique of the small producers' fraud consisting in the undervaluation of goods, but also in the declaration of a smaller quantity than the real one.

Although a small group of economic agents operate business of billions in the grey and black markets of fruits and vegetables sector, bringing substantial losses to the public budget, the authorities representatives act and sanction only the very few traders, mainly found in the street, not the 'big players' those in the big shops and markets. The sellers of fruits and vegetables are always punished for various contraventions of conducting illegal commercial activities, but as the penalties are small they prefer to pay and not change their behaviour making these correctives measures to be ineffective. Another pressing issue is the one of the producers because the "mafia of the markets" of agricultural products doesn't allow producers to market their production, and find themselves being forced to sell their products at extremely low prices. Most of the food markets are managed/ owned by speculators, and in many cities of the country there are controlling groups that condition the access of producers to the market and perceive illegal 'access fees'. Another phenomenon happening is a repeated and an over control against only small and medium sized producers who try with difficulty to access the big supermarkets. This type of measure is only a strategy used to eliminate what the big sellers call as dangerous competitors.

## **HOW THE LOCAL MARKET OF FRUITS AND VEGETABLES CAN RETRIEVE THEIR REAL VALUE AND RECOGNITION**

As a European market member, Romania has to apply the EU regulations and market requirements in agriculture, even in the absence of effective mechanisms and technologies needed for this. In order to be a proactive part of a common market whose aims is to stabilize markets to ensure a fair level of income to farmers, and to develop the quality of products to meet consumers demands, Romania has to adapt and update European modern mechanisms of processing and delivery the agricultural products.

The reorganization of the production-exploitation of fruits and vegetables- products with a primary role in public health and nutrition due to their sensory qualities and of valuable nutrients they contain as glucides, vitamins, organic acids, mineral salts, etc. To efficiently valorise the pedo-climatic

conditions available in Romania, while improving the socio-economic level of rural areas, is the main objective of a strategy in the field. The policy must meet the requirements of this market sector by reducing price fluctuations and the imbalance between supply and demand and by encouraging consumption of fruits and vegetables, while ensuring the competitiveness of products. Although, initially, Romanian consumer has being obvious price sensitive and less sensitive when it comes to quality, lately most of the Romanians are becoming more attentive to place of origin of goods, paying more attention to quality products for healthier lives, even if the marketplace is not sufficiently developed to cover this need.

Local organic producers do not have however the capital to form their own network of shops and supermarkets and selling on the market is impractical considering that are huge shelf fees and prices charged are lower than market display costs, leading to idea that the exploitation of agricultural potential of Romania to be directed towards the Romanian organic products so demanded abroad

The official data issued by National Commission of Statistics and the Ministry of Agriculture and Rural Development shows, given the lack of care for the agriculture during the last decades, the Romanian land creates great opportunities for organic crops. For the moment, figures show the organic agricultural productions occupy less than 1% (0.94%) of farmland in Romania, of 14.82 million hectares, while at the level of the European Union, the dedicated to organic farming area is 6.11 million hectares, which is 3.7% of the 162.3 million of cultivated hectares.

Latest data published by the European Commission on European macroeconomic indicators of the agricultural sector highlight the Romanian position towards the other 26 Member States. Although it occupies an honourable sixth place regarding the utilized agricultural area, representing 7.7% of total EU utilized agricultural area, Romania has the largest number of farms (3,931,000), placing it on the last position. The same situation is found in the number of people working in agriculture, where Romania, with 28.8 per cent far exceeds the European average of 5.4%, being overtaken by all other Member States.

In this case, it is essential to find the right balance between consumers' expectations to consume more natural products and technological constraints related to their production chain up to the market. Therefore, we consider - as highly necessary - the creation of a legal framework allowing the Romanian manufacturers to develop the sector of fruits and vegetables and sell local products, making them known abroad, as European products. The present legislation lacks in coherence and stability and together with the poor management and low remuneration of the public service's jobs facilitate: •the deficiency in monitoring and in professional control over such businesses and •the lack of transparency in the decision-making process and in the relationship with citizens. All this are part of the corruption process, too deeply rooted in this region. In these circumstances, the activities linked

to the market competitiveness, boarder operations, sanitary police and consumers' protection should be modernised and intensified. Additionally, authorities should exercise more their attributions based on a developed professional plan of quality control and assessments of agricultural products markets, and should analyse the level of pesticides, nitrates and nitrites in vegetables and fruits and monitor their limitations as stated in the law. The informal exchanges on the fruits and vegetables market cannot be countered only by perseverance or desire to bring order in this sector. Laws and appropriate norms of application are expected to come into force and lead to Romanian agriculture development.

## QUALITY AND SAFETY OF THE ROMANIAN TRADITIONAL FOODS

Nowadays, under globalisation influence, it is quite difficult to recognise the brands and identity of all products. Their certification has to become a must, for the consumer safety and security, a non-negotiable condition (Arvanitoyannis et. al., 2005). Under this process, a special attention should be given to the traditional products that are forming a special category as classified according to the origin, technology, content and recipes.

Nowadays, there are more and more official initiatives to create the necessary context, both legal and methodological, in order that opens a larger access to the market for organic agricultural productions. It is also important to apply the norms of certification referring to the traditional products recognition at national and European level. For a product to be certified with 'traditional' designation it should fulfil a series of conditions: any good should be made from traditional raw material, using traditional ingredients ways of processing and local recipes. Applying these rules, an identification system called *tracking* was developed, to monitor and evaluate both quality and safety d. In this way, local-specific and traditional products could be recognised for the value of theirs components, for the original recipe used, the ways in which they were processed and for their health attributes and preservation together with cultural vestiges promotion by becoming certified internationally Some of the advantages of products certification would be ....

At international level the big farms are more common in developed countries such the Netherlands, France, Spain and Turkey. Often, farmers and processors make abusive use of chemical fertilisers to get bigger crops. (Larsen, 2006). Following the farmers requests for profits, the European legislation, dynamic, has brought a lot of improvements for preserving also the consumers' safety. Unfortunately, some of those crops, once arrived in the emerging countries' shops, face the local conditions not harmonised either with the farmers' requests for public sustain of agriculture nor with the socio-economic conditions of living of the local population. A good example is the firm request of implementation of the *Codex Alimentarius* principles and standards as the main safety reference for food products traded internationally.

Another aspect to consider refers to the processed products in rural areas, sold mainly in improvised markets or by the main road in uncertain hygienic conditions without much knowledge of the norms stated by the authorities.

In the countryside, people continue to practice basic agriculture, to make their own dairy or meat products following the knowledge inherited from their elders, ignoring the pollution, or the new physical and atmospheric condition of our times. The intensive industrialization, the increase in pollution, the tendency to short the crops maturation, the pressure to increase the goods consumption generated big differences/gaps in living standards, crops qualities, and people's health. Therefore, more contaminants enter the food composition: polycyclic aromatic hydrocarbons, polychlorinated dibenzop-dioxins and dibenzofurans, polychlorinated biphenyls, a number of other persistent halogenated organic compounds, and toxic trace metals such as cadmium, lead and mercury (Larsen, 2006). New contaminants have been discovered associated with the way of producing traditional food. In order to prevent the contamination of traditional food, its production has been regulated successfully on the basis of acceptable daily intake (ADI) – the use of additives, pesticides, and veterinary drugs; tolerable daily intake (TDI) – for contaminants that might appear in the production process (Larsen, 2006).

Before reaching the markets, products are labelled and some categories of additives appear on the label. The label is the first “contact” of the costumer with the product. European authorities regard labelling as an important issue. It refers not only to consumption date, but to percentage ingredients, potential allergens, adulteration etc. (Arvanitoyannis et al., 2005). The particularities of the place of origin or provenance, if not present might mislead the consumer to a material degree as to the true origin or provenience of the food. This aspect plays a greater role in the area of traditional foods, because these contain specific elements according to the traditional production ways.

Even if legally speaking, for authorized producers there have been imposed norms in order to protect the consumers, they have to be aware when they decide to consume a traditional product. The different consumer attitudes that are rather linked to consumers' demographic and socio-economic status, culture, personal preferences and experience, do not necessarily lead to behaviours that increase the safety of the food consumed (Wilcock et al., 2004). This means that consumers can put pressure on the producer, but only if they are completely aware of the phenomenon. Here appears the major role of the media. But is the media always willing to objectively inform the wide public by using reported statistics and risks within their context? Or its intentions are to sell food scare stories? Carslow (2008) points out in his review that the media's role in communicating the risks linked to food is to inform the audience correctly using as primary source the knowledge of scientists and

authorized persons. Only in this manner consumers can have access to relevant and objective information that could help them to make informed decisions.

So far we consider here only authorized producers of traditional Romanian products. But the fact that many of the traditional products that are out on the local market come from individual producers shouldn't be neglected. There are 11 million subsistence farms in Romania according to a former ministry of agriculture's declarations (2010) with low resources and high motivation of selling their products on the market. When considering the traditional food, the Romanian consumer actually retains the idea of home-made products and ignores any connection between them and the authorized products. Since the subsistence agriculture is practiced at such a scale the access to these products is easy. We can ask ourselves, thus, how could we ensure the optimal quality of these products in order to eliminate all possibility of infections after consuming them?

Even if on short term this kind of practices can't be eliminated, prevention measures could be taken in order to act on the environment where these traditional foods are made in, but also on the way they are delivered. Last but not least, the consumer should be informed about the consequences he is facing when buying traditional products from inadequate places that don't respect the requested standards in terms of hygiene and not only.

In what the producer is concerned, the hygiene measures regarding the procurement of raw materials and the process of production have to become more restrictive. Here, the local authorities need to consciously monitor in order to verify the health of the household animals (the local vet), but also the substances used like pesticides when producing fruits, vegetables, cereals etc. These measures are vital taking into account that the environment is suffering major changes because of increased pollution and affect not only the health of people but of all creatures.

Distribution means should also comply with more restrictive verifications. If we talk about the markets where local producers sell different products then the way the products are preserved and also whether the information about the origin of food and its freshness were made available to the consumer, should be verified and in case of noncompliance those found responsible should be punished

Selling traditional products in unauthorized places like on the side of the road etc. should be forbidden and the authorities should get more involved in the elimination of this phenomenon. At this point, the role of the consumer also interferes because he should not encourage this "commerce" through buying products up for sale in inadequate conditions that lead to the alteration of the products and finally to side effects after consuming them.

Some of the EU initiatives have as at their core the regulation of semi-subsistence farms that would facilitate the producers and control consumer's safety. Those can be regulated only in a wider legal

frame, at a European level, allowing in this way, each member state to adapt it to national conditions. Semi-subsistence farms are important for the Europe's rural economy because they keep traditions and the ethic-cultural specificity of various regions of Romania alive, and could be developed as cultural patrimony elements to be included in the European landscape and contribute to the development of biodiversity.

## CONCLUSIONS

Romanians are lucky enough in the sense of applying the rules of a 'bio' type of agriculture dating from before the 'bio'-term was even invented, and managing to keep themselves still safe from the harm brought by wrong application of technological innovation, from so many toxic products that made their appearance lately in so many people's diet. Even though between 2000 and 2011, the share of agriculture in GDP fell by approximately 5%, standing at the end of 2011 slightly below 10% (9.), mainly Romanians consume products from domestic production - of a higher quality and much healthier than the imported ones. In terms of traditional products cooked in Romania, their traceability is one characteristic that defines their quality. Most Romanian traditional recipes are older than few hundreds of years, being best kept in rural areas, and transmitted from generation to generation. The ingredients of such products have been grown in peasants' gardens, fertilized with natural fertilizers and produced in conditions that keep their flavour, taste and quality at their best.

The quality and safety of Romanian traditional foods can yet not be guaranteed. On one hand we have created an institute that is meant to authorize the Romanian traditional products based on recent legislation and quality standards. However, there is an aspect that cannot be neglected, namely that most Romanian foods come from "producers" who are not sufficiently controlled and tracked which of course puts into question the products quality.

The idea of creating a legal pattern for local producers practicing subsistence agriculture is welcomed. Creating a framework for semi-subsistence farms enables parties concerned to benefit from "safety chain". On one hand farmers can produce and sell their products through a legal market network, on the other the public authorities ensure and impose the optimal standard of quality offering safety. Nonetheless the customers that get a guarantee of the quality of the Romanian foods will buy more. Once such measures will be taken, great results are expected from the reduction of the Romanian underground economy which of course will lead to higher national economic growth and prosperity.

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## STRATEGIES OF CREATIVE POTENTIAL DEVELOPMENT IN THE CITIES

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### ABSTRACT

The development of creative cities is a phenomenon of last decades in the regional development and also in the regional policy of European Union. It belongs to the modern “smart” concepts based on innovation, creativity and excellent ideas strengthened by involving various local stakeholders. The paper aims to analyze the creative potential at the local level - districts and to identify the potential pathways of its future development regarding the theoretical framework and experience in the European cities. As an object of our study we selected the cities with surrounding (districts) in the Slovak Republic.

The paper is divided into three chapters. The first chapter is devoted to definition of the theoretical framework, the interconnection between the city – creative potential – its role in the local development. In the second chapter the methodology and research results are presented. To map the creative potential we use the criterial matrix defined for the Slovak district's conditions in 2014. Moreover, to rank and order the potential in creative development we use the multi criterial analysis by TOPSIS. In the last part of the paper, based on the research results we identify the most suitable areas and the suitable pathways for the future development regarding the strategies of creative cities.

**Keywords:** *Creative potential. Strategy. Cities. Creative industries. Development.*

### INTRODUCTION

Due to changes in society caused by the global economic crisis, integration and interdependence between regions, demographic changes, changes in values and threats to the competitiveness of the territories, cities and their development have become an important part of the regional policy of the European Union. Achievement of integrated urban development is a part of the main goals of the Territorial Agenda of the European Union in 2020, which follows the Europe 2020 strategy (Territorial Agenda of the European Union 2020, 2011). The role of cities in the EU program documents is crucial in Innovation, Entrepreneurship and Digital Ecosystems

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achieving the smart growth because cities are characterized by high degree of innovation activity, achieving the green growth oriented on building green, compact and energy-efficient cities, as well as achieving the inclusive growth with an emphasis on addressing the consequences of population aging, social exclusion and segregation (Cities of Tomorrow, 2011). The cities are considered engines of economic growth whose base lies in creation, dissemination and sharing creativity, knowledge and innovation. The uniqueness of new ideas is stimulated by proactive innovation policy and education, targeted application of sophisticated information and communication technologies in education, employment, social services, health and safety. Cities are also the centers of development of the regions in which they are located. This is a result of strongly manifested role of creativity, especially human creativity during 21<sup>st</sup> century that is a fundamental source of new ideas, innovations and knowledge (Landry & Bianchini, 1995; Kozina, 2011). The creative and innovative potential and its gradual targeted use in cities and regions is becoming a key criterion for deciding on the establishment of new businesses producing higher value added, the formation of clusters and industrial parks, attracting tourists, locating foreign investment.

The paper deals with the “hot” topic of identifying the role of creative potential in the local development, its analyzing in the districts of the Slovak Republic and defining the pathways of its future development regarding the theoretical framework and experience in the European cities. The paper includes three main chapters. In the first chapter the role of creative potential in the local development is defined by the theories of regional and local development and theory of creative city. The second chapter is devoted to the analysis of creative potential based on the defined criteria and the use of mathematical and statistical apparatus (multi criterial analysis, TOPSIS, etc). In the last chapter, based on the research results we recommend the possible strategies in the Slovak districts for further local development based on the creative potential.

## **ROLE OF CREATIVE POTENTIAL IN THE URBAN DEVELOPMENT**

The concept of use and development of creativity is examined for a several decades in terms of different territorial units that mean districts, cities, regions. Particularly the term creative city appears for the first time in the literature in the 80-ties of the last century (Landry, 1990; Hall, 1998; Bradford, 2004; etc.). Creativity and knowledge concentrated in cities and regions have led to perception of cities as economic development focal points of regions in which are cities located. Cities are becoming laboratories that provide genuine technological, organizational, legal and social solutions for their further growth (Hall, 2010).

The local - endogenous – potential (or city and district potential) is a very important component of each territory progress and is usually divided into the following categories: economic and technical (e.g. hard and soft infrastructure, industry and sector structure of the local economy); socio-demographic and cultural (e.g. demographic indicators, social structure, culture); natural and geographical (e.g. environmental quality, water, soil, minerals); urban. The traditional composition of local potential is recently complemented by new categories of innovative and creative potential, mainly consisting of intangible elements, which are becoming increasingly important localization factors, as well as a source of socio-economic development (Čapková, et al., 2011; Vaňová, 2006).

The perception of creativity as a new, essentially unlimited, production factor which can be found basically everywhere has changed during the past decades. Number of authors and organizations (Landry, Bianchini, 1995; Howkins, 2001; Florida, 2004; KEA, 2006; Luknič, 2008; Kloudová, 2010; Mikuláščík, 2010; UNCTAD, 2010; Franková, 2011) consider creativity the factor complementary to the traditional labor, land and capital. Furthermore, since 1990's the creativity is considered as the new source of territorial development.

The creative economy at the local and regional level follows from the fact that cities and urban areas have always been places where human creativity flourished. Here not just the world's great art and fundamental advances in human thought originated, but also the great technological breakthroughs that created new industries and even entire new models of production. Ever since cities became large and complex enough to present problems of urban management, they also became urban laboratories, the places that developed the solutions – technological, organisational, legal and social – to their own problems of growth (Hall, 2009).

Camilleri (2010) has summarized the role of creativity in spatial development as follows:

- creativity is considered a source of economic success since the talented, creative and educated people are demanded production factor and are increasingly replacing hard infrastructure components in the process of deciding on the businesses localization;
- creativity has a positive impact on the present and future situation in the territories - it is well known that currently over half the world's population live in the cities, and according to the World Health Organization (WHO, 2014) this trend will continue with the assumption that in 2030 every sixth person out of ten will live in the city. It is associated primarily with the transition from traditional (agrarian economic structure) to a modern society (service economy, the knowledge economy, creative economy) or by changing the preferences and opportunities of the population. Landry (2007) argues that creativity is now one of the possible answers for cities and regions (as

well as individuals) confronted with problems accompanying these processes. Such a creative approach to solving problems should lead to a better quality of life and promoting socio-economic development.

An interesting view of creativity as a driver of spatial development brings Pratt (2011), who claims that any attempt to define creativity in this context unambiguously is useless. According to the author, we should understand creative territories relatively, which means to define their creativity individually, for a specific territory, under its specificities and potential in its. We add that the relative definition of creativity also applies to the implemented activities aimed at promoting the development of the territory.

Based on the knowledge of the new role of creativity we conclude that the territory can express creativity through relationships and the extent of cooperation between the local stakeholders, the level of commitment of the local community (or communities), willingness to address current local problems and their search for new, creative solutions. We also consider necessary to underline the fact that creativity should not be seen as a new production factor, replacing the traditional ones but as a factor that has always been present in the process of any kind development including the development of human society, and has always been a source of economic growth (Moroni, 2011).

Generally, the territory with creative potential we understand as a creative economy in the defined territory represented by creative class, public, private and community organizations and activities that foster creative industries and innovations. Economic, social, cultural and political networks which generate appropriate conditions for stimulation of various forms of creativity are a basis of creative territory. At the same time concentrated creativity in enterprises increases productivity of the territory, it becomes a source of competitiveness based on specialized products and through new ideas and know-how enhances creativity and innovation (Scott, Agnew, Soja, Storper, 2001). Several authors (inter alia Landry, 2000; Kalandides & Lange, 2007; Clifton, Cooke, 2009; Suciu, 2009) stress within the territory the importance of creative people, cultural institutions, creative and cultural activities. Another group of authors (Bradford, 2004; UNCTAD, 2008; Smith & Warfield, 2008; Kagan, Hahn, 2011) see the role of creative cities especially in development of creative and innovative thinking and emphasize the equal status of all stakeholders in the territory, support inclusion of segregated groups and drop on preferring only the creative class as a key driver of economy.

Romein and Trip (2009) perceived creative city considering the agreed development goals, either in support of the production milieu (support of creative industries in the territory, its integration in the

local economy, networking and clusters of enterprises) or consumption milieu (focused on activities increasing attractiveness of the territory and the quality of life in the city - often related to the attraction of so-called creative class). In general, the creative city can be considered to be a tool of local development promotion using available local potential and so called creative infrastructure which mostly includes intangible elements, such as atmosphere, authenticity, diversity of the city and its ability to produce symbolic values. The obvious advantage of this concept is that it encourages local actors from all sectors (public, private community, voluntary) to use the available potential of the territory, its specific features – it is not conducive to the realization of high-cost projects. To main characteristics of the creative territory belong uniqueness and authenticity, dynamic links and partnerships (new models in organizations, transformation of social relationships and values), sharing knowledge and experience, openness and diversity, high-quality workforce, infrastructure (Landry, 2000; Wu, 2005; Creative Economy Report, 2008; Hamilton, Arbic, Baeke, 2009; Baycan, 2011; Romein, Trip, 2012).

## INDICATORS OF CREATIVE POTENTIAL IN THE CITIES

The role of creative potential in cities and regions has been examined by several experts. Mostly it is a description of the economic structure of businesses and creative activities in the territories (e.g. Documents and analyzes of Urban Community Development; Inspired by Culture: The Potential of Creative Cities in East Asia, 2008; Creative Metropolises, 2011; Potentials of Creative Urban Regeneration - Ljubljana Urban Region, 2011; Creative cities: The Potential of Portuguese Cities, 2011; Lisbon Creative city, 2013). In the Central and Eastern European countries an analysis of mapping the creative potential in townships has not been done yet. Nonetheless, mapping creative potential based on expert judgment allows further decisions about the use of other conceptual creative potential as part of an integrated and balanced smart local and regional development. So by the analysis in the paper we cover this gap in the knowledge.

First of all, we need to define the main indicators with some variables that cover the wide scale of the creative potential. As the key approaches we selected – the approach of Romeain' and Trip's (based on their extensive research in the field of creative city and their classification of production and consumption milieus, 2009); consulting group INTELI's approach (results of their qualitative research in small and medium-sized cities around the world in the field of soft development factors making the city creative, 2011) and Landry' and Hyams' approach (they examined level of creativity in ten groups which indicators are very similar to those of quality of life, 2012). These approaches have been selected based on originality of exploring creative potential of the territory. They are not modifications of existing approaches; identified indicators of creative city are results of original empirical researches.

Approach	Area	Indicators
Traditional Development Factors	Endogenous	Potential of a city; Competitiveness; Innovation strategies; Clusters; Institutions; Public entities; Soft infrastructure; Way of communication and its channels; Image; Leisure time infrastructure; Green spaces
	Exogenous	Development degree of the whole country; Openness of the economy in relation to foreign countries; Economic and social policy; Direct foreign investments; Political system; Legal framework
Quality of Life	Political and Social Environment	Relationship with other countries; Internal stability; Crime; Law enforcement; The presence and integration of foreigners; Safety and trust; Limitations of personal freedom; Media and censorship; Voter turnout; Consultation of rulemaking
	Economic Environment	Job security; Personal earnings; Long-term unemployment rate; Employment rate; Currency exchange regulations; Banking services; Employment opportunities; Financial situation of household
	Education	Educational attainment; Student skills; Years in education; Number and availability of schools
	Health	Hospital services; Medical supplies; Life expectancy; Health care services
	Environment	Air quality; Noise level; Cleanliness; Green spaces; Fight against climate change; Water quality
	Public Services and Transport	Electricity; Water availability; Telephone; Mail; Public transport; Traffic congestion; Airport; Sports and cultural facilities; Streets and buildings; Public spaces; Availability of retail shops; City administrative services; Quality of support network
	Leisure Time	Variety of restaurants; Theatrical and musical performances; Cinemas; Sport and leisure activities
	Housing	Housing; Household appliances and furniture; Household maintenance and repair; Housing expenditure; Dwellings with basic facilities; Rooms per person
Creative City	Political and Public Framework	Political and public representatives with sense of purpose and ethics; Transparent and accessible political and public representatives to inhabitants; Light, lean, responsible, adaptable bureaucracy; Ability of citizens to interact with local bureaucracy; Level of decentralization of power, decision making or responsibilities; Support of voluntary and community sector; Quality work force in public institutions; Creating conditions rather than detail planning; Cooperation between local authorities, firms and interest groups; Strong sense of vision for the place; Inspiring leaders are present in the city; Formulated strategies are looking at the future in the broadest terms and see the planning process as continuous and intrinsic; The city works well, goals are achieved and things there happen; High standards of services; Benchmarking; Attributes such as reliability, punctuality, efficiency or accuracy are highly respected; Partnership; Ability to delegate authority
	Social Climate	Prevailing values and attitudes; Social tolerance; Openness towards diversity (e.g. gay and foreign-born population, subcultures); Openness of public, private and voluntary/community sectors; Understanding the differences; Community engagement; Trust relationships; Culture of participation; Neighborliness' and sociability; Social capital; Presence of civic associations; The city values learning and knowledge; Diversity of learning options; The city is fostering local talents
	Representation of a City	Image; Symbolic value of cultural heritage; Clear identity of a city; Citizens are self-confident in their attitudes, values, local production, cultural and other public facilities; A city offers a variety of experiences,

		choices and opportunities for people to express themselves; Variety of cultural spaces and access to them; Openness to cultural variety of a city; Environment rich on science, gastronomy, cultural life, attractions, parks, events, festivals, etc.
	Entrepreneurship, Exploration and Innovation	The city is business-friendly; Social recognition of entrepreneurs; Extensive support system for old and new entrepreneurs; Innovations and R&D opportunities; Significant role of creative industries is evident; Diverse pool of talented workers; Vocational training
	Communication, Connectivity and Networking	The city is well connected internally and externally; It is easy to get in the city; Walkability through the city; High quality public transport system; Good and quality traffic infrastructure; Knowledge of foreign languages; Presence of clusters, hubs, focal points and knowledge exchanges; Affordable spaces; Old industrial buildings; Authenticity; Face-to-face networks
	Built Environment	Diversity and size of buildings; Diverse, pedestrian-friendly public spaces; Authentic neighborhoods; Condition and quality of hard and soft infrastructure; Ecological-friendly infrastructure; Health and social services; Quality schools
	Amenities	Cultural festivals; Outdoor sporting facilities; Parks; Education facilities; Specialist libraries; Specialist shops; Diversity of cafes and restaurants; Architectonic and archaeological heritage; intangible heritage; Accommodation facilities; Vibrant street life
	Liveability and Well-being	Quality of life factors; GDP; Offered services' standard; Crime; Safety; People like to live and work in the city

Table 1 Comparison of territorial development indicators

Source: own processing according to Miškovičová, A., Vaňová A. (2015)

The table 1 shows that the quality of life and creative city approaches focus on both quantitative and qualitative indicators. We think that creative city indicators are significantly affected by quality of life indicators. The creative city indicators, however, take into account the important role of culture, creativity and cultural infrastructure, as well as various intangible and abstract elements of the territory - mutual relations, attitudes, history, traditions, values and symbolic value. Creative city indicators we consider the creative potential of a territory. The indicators in the table encompass the traditional potential (economic, technological, infrastructural, etc.) as well as the intangible one. These indicators are fundamental for the realized research which results are presented in the next chapter.

## ANALYSIS OF THE CREATIVE POTENTIAL IN THE DISTRICTS OF THE SLOVAK REPUBLIC

The second chapter of the paper consists of 2 subchapters. The first one explains the methodological framework of the realized research and the second one has already presented the research results. In our investigation, we were strongly influenced by the availability of the research data, so we decided to realize the research on the level of districts, not cities in the Slovak Republic. The districts could be considered spatially as cities with surroundings, and by the Slovak statistical availability it is the lowest level of data regarding the socioeconomic situation, quality of life and etc. Currently, the number of districts in the Slovak Republic is 79. They are divided into 8 regions – region of Prešov (13 districts),

region of Banská Bystrica (13 districts), region of Košice (11 districts), region of Žilina (11 districts), region of Trenčín (9 districts), region of Bratislava (8 districts), region of Nitra (7 districts), region of Trnava (7 districts). The graphical presentation of districts by region is illustrated in the Figure 1

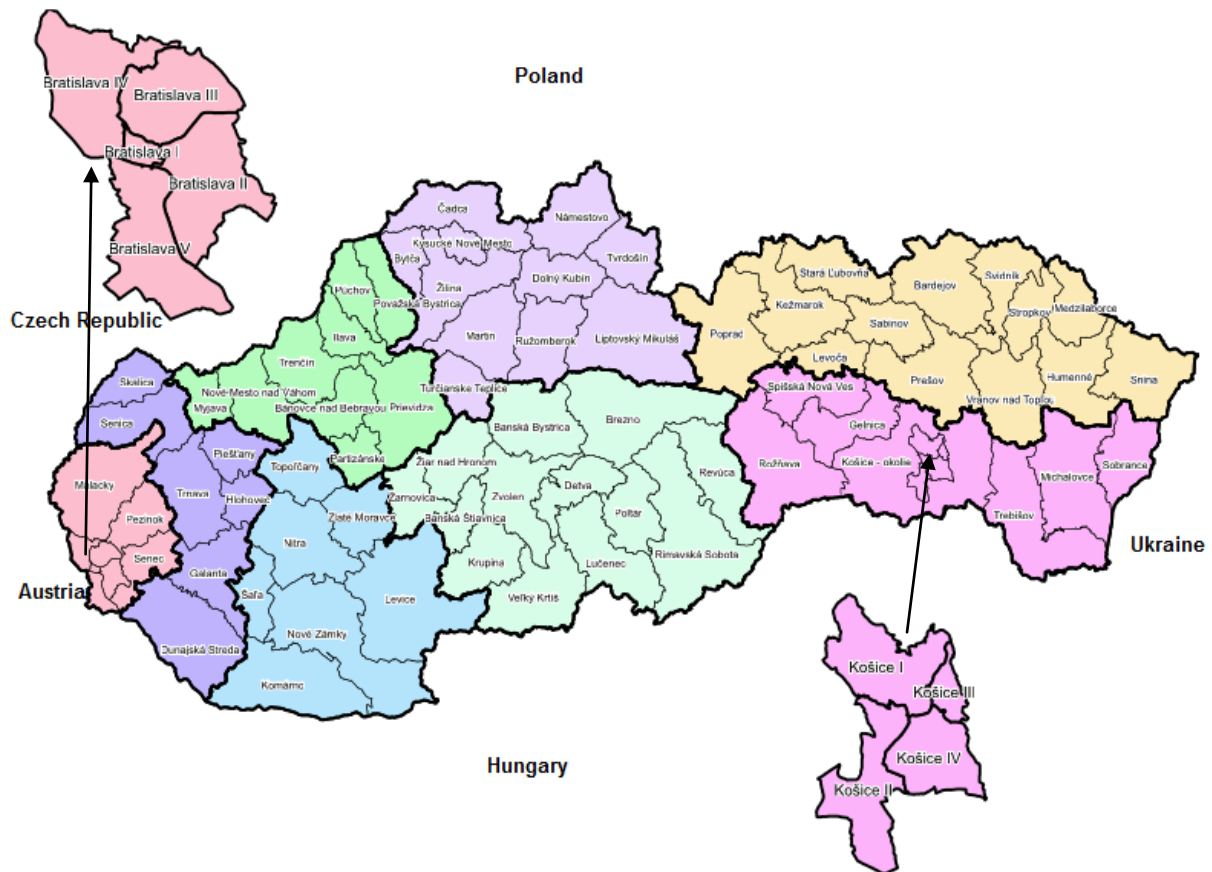


Figure 1 Districts of the Slovak Republic by the regions

Source: [https://upload.wikimedia.org/wikipedia/commons/c/cf/Okresy97\\_Slovakia.svg](https://upload.wikimedia.org/wikipedia/commons/c/cf/Okresy97_Slovakia.svg).

## METHODOLOGY OF THE RESEARCH

Regarding the theoretical framework and approaches summarized in table 1 we had to define the main indicators to map and measure the creative potential in the districts. We use the method of criterial matrix defined for the Slovak district's conditions. It is divided into three main areas of indicators – creative city, economic conditions and social conditions. All indicators were defined with regards to the data availability in 2014.



Area of indicators	No.	Indicator	Short.	Description	Unit
Creative city	1	Foreign nationality inhabitants	OCN	Share of foreign nationality inhabitants in district on the total number of district inhabitants	%
	2	Cultural and creative industry*	KKP	Share of businesses employees by SKNACE belonging to the CCP and persons employed as liberal professions on the total number of businesses employees by SK NACE and the number of individuals under different legal forms in the district.	%
	3	Non-profit organizations	NS	Share of non-profit entities (legal entities serving to financial and non-financial corporations, government and households, e.g. budget organizations, subsidized organizations, civil society organizations, associations, clubs, political parties, churches, etc.) in the district on the total number of legal entities (both profitable and non-profitable) in the district.	%
	4	Pollution emission**	EZL	Emissions of major pollutants – solid emission, sulfur dioxide, nitrogen oxides, carbon monoxide in the district	t/km <sup>2</sup>
	5	Cultural infrastructure**	KI	The number of museums, libraries, galleries, theaters, cinemas, cultural and educational facilities, research libraries, leisure facilities for children and youth, the number of accommodation facilities.	natur.
	6	Tourism activity* **	TAktiv	Share of the number of visitor overnights in the accommodation facilities in the district and the number of district population	%
	7	Tourism attractiveness* **	TAttrakt	Share of the number of visitor overnights in accommodation facilities in the district and by the district area (in square kilometers)	%
	8	Scientific and research infrastructure	VVI	Number of colleges and universities (public, state, private), departments of Slovak Academy of Sciences and research institutes in the district	natur.
Economic area	9	Foreign businesses	ZP	Share of businesses in foreign ownership, which are established and controlled by a foreign legal entity or physical entity - businessman on the total number of enterprises in the district.	%
	10	International businesses	MP	Share of businesses in international ownership in district, which are established and controlled by a foreign legal entity or physical entity - businessman on the total number of enterprises in the district.	%
	11	Direct foreign investments* **	PZI	State of foreign direct investments (the equity, reinvested earnings and other capital) in the district.	thous. EUR
Social area	12	Population migration	M	Migration balance - the difference between the number of immigrants and emigrants (from Slovakia and beyond SR) to / from the district.	natur.
	13	Aging index	IS	Number of persons in postproductive (65+) age to people in preproductive (0-14) age in the district.	%
	14	Criminality	K	Identified violent crimes, vice crimes and thefts in the district.	Natur.
	15	Safety	B	Percentage of solve crimes in the total crime identified in the district.	%

Table 2 Criterial matrix of creative potential research in the districts of the Slovak Republic

Source: Miškovičová (2016)

\* Some data are not available for their confidence, what reduces the resulting value criteria..

\*\* Figures for 2013 and/or 2014 were not available at the time of the survey, the completeness of data are estimated by using regression analysis.

The main sources of data for the multicriterial analysis were the Statistical Office of the Slovak Republic, the National Portal for the technology transfer, Centre of Science and Technology Information, Universities Portal, Slovak National Bank and the Police Presidium of the Slovak Ministry of Interior Affairs. However, during the data mining we found out that there is a problem to collect data about the criminality and safety. The unavailability of the data caused the reduction of the research sample to 38 districts - region of Prešov (7 districts), region of Banská Bystrica (6 districts), region of Košice (6 districts), region of Žilina (6 districts), region of Trenčín (3 districts), region of Bratislava (1 district), region of Nitra (5 districts), region of Trnava (4 districts). If the data were not available, we used the regress analysis and forecast the development of statistics regarding the previous 11 years by the mathematical and statistical methods. To analyze the creative potential the normalization of the original values was done in the criterial matrix. The output of the analysis is to identify the strengths and weaknesses of the creative potential in the Slovak districts.

In the second step of analysis, we transformed the criteria to maximize their value, settled the weight of criteria (method of gradual scale setting) to normalize the data. Following, we implemented the method of TOPSIS (Technique for Order Preference by Similarity to Ideal Solution), which compares the real values of each district criteria with the optimal (highest) value of criteria. The most powerful district is the one with the highest values in all researched criteria. All these research results will be used as a main input to strategies of creative potential development in the Slovak districts.

## RESEARCH RESULTS AND DISCUSSION

The analysis of the creative potential in the Slovak districts is realized by the 15 identified indicators (Table 2), which are an inevitable part of the creative city concept. Based on these criteria we were able to evaluate the potential of districts with the available data and to identify their strengths and weaknesses. We divided them by the Slovak region to make the outputs more transparent and illustrated the values of defined criteria in 8 radar graphs (see next page). As closer is a value of criteria to 1 point, as strong is a part of potential. In presentation of the analysis we did not include the indicator 4 and indicator 14 because of their transformation to maximize the values (by this methodological step both indicators were evaluated as the best in all districts). However, we will use them in method of gradual scale setting and TOPSIS.

By the comparison of the graphs presented data in 2014 it is confirmed a significant strong position of the Bratislava district as a part of capital city and a city with a great location on the crossroad to all

neighbor states. The district has reached the value 1 in criteria: tourism attractiveness, scientific and research infrastructure, international businesses and direct foreign investment and population migration. The high evaluation (close to 1) is also in criteria – cultural infrastructure and creative and cultural industry. These criteria can be seen as strengths of the district. The weaknesses are the share of non-profit organizations and safety. The Bratislava district has the best evaluation in the selected aspects of creative city. Five indicators were evaluated as 1, and nowhere in the Slovak districts the indicators have reached this point of evaluation.

From the districts – Dunajská Streda, Galanta, Senica, Trnava (Trnava region) the district of Dunajská Streda is characterized by the multiculturalism because of the high share of foreign nationality inhabitants. It is probably caused also by its location on the border with the Hungary. The high evaluation was marked also in indicator – population migration. However, in the district absents the scientific and research infrastructure, as same as in Senica district. The district of Trnava does not include some specific strong part of researched potential, as well as in Galanta district.

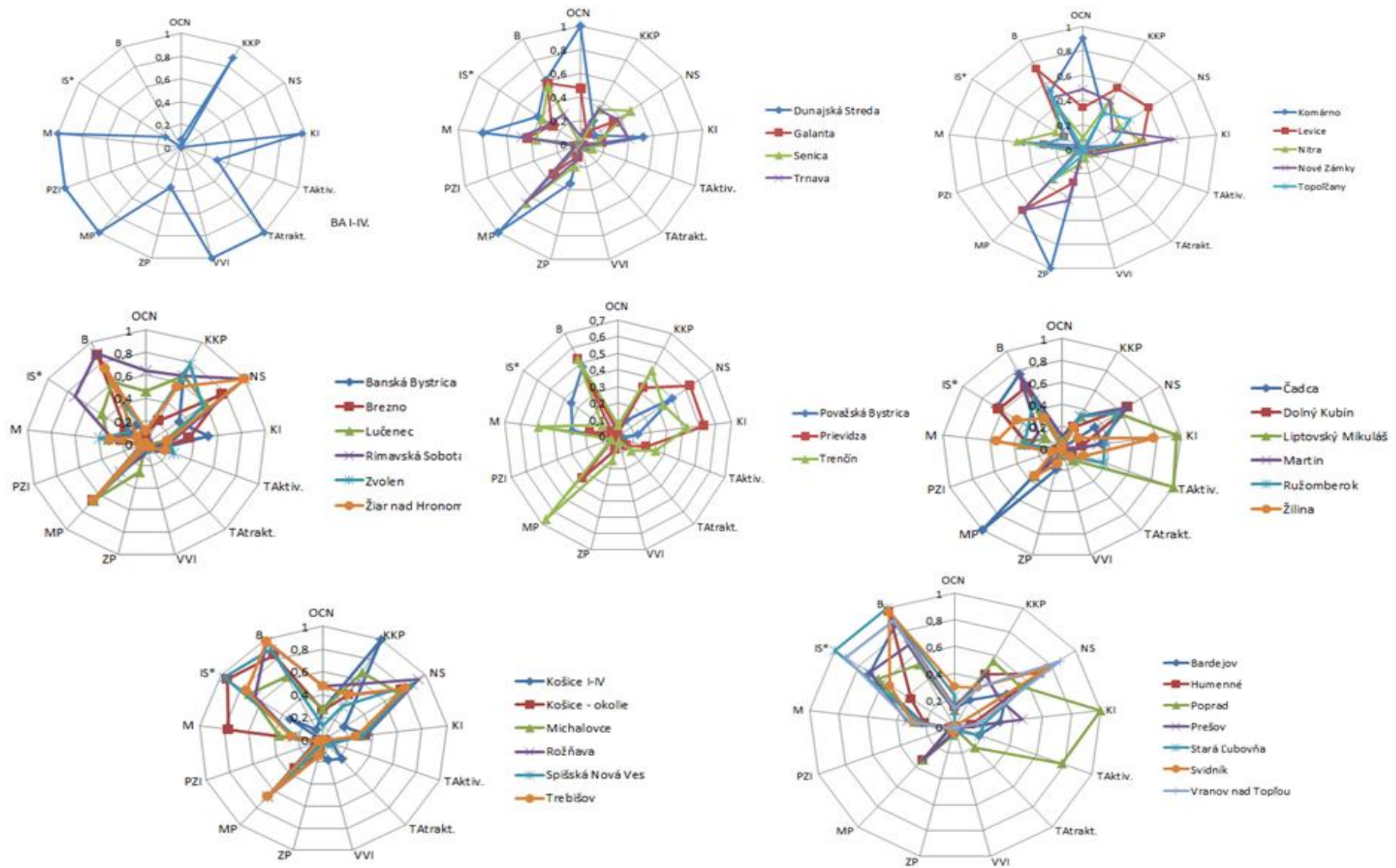


Figure 2: Mapping the creative potential in the Slovak districts by the selected criteria. Source: own workmanship

In Nitra region (Komárno, Levice, Nitra, Nové Zámky, Topoľčany) has Komárno district a strong position in share of businesses in foreign ownership and also in share of foreign nationality inhabitants. In other researched districts is not a significant strength or weakness.

In all districts of Banská Bystrica region, i. e. Banská Bystrica, Brezno, Lučenec, Rimavská Sobota, Zvolena and Žiar nad Hronom, has stronger position by the evaluation of the indicators – creative and cultural infrastructure and population migration. In all districts belong to the weak aspects of potential tourism attractiveness, and research and scientific infrastructure. The district of Rimavská Sobota and Žiar nad Hronom reached the highest possible value in indicator – nonprofit organization, what indicates active non-profit sector in these districts.

In region of Trenčín were evaluated three districts – Považská Bystrica, Prievidza and Trenčín. In all of them, the best evaluated indicators are safety, non-profit organizations and population migration. The weak position has the research and innovation infrastructure, share of foreign nationality inhabitants and tourism attractiveness.

The region of Žilina includes district of Čadca, Dolný Kubín, Liptovský Mikuláš, Martin, Ružomberok and Žilina. The level of scientific and research infrastructure is the lowest in comparison with other districts. The district of Čadca reached 0 point in three indicators – share of foreign nationality inhabitants, cultural and creative industry and research and scientific infrastructure. District of Dolný Kubín has the lowest evaluation (0 point) also in 3 indicators - share of foreign nationality inhabitants, research and scientific infrastructure and population migration. The strengths are in Čadca district population migration and safety, in Liptovský Mikuláš tourism activity and cultural infrastructure, in Dolný Kubín nonprofit sector and aging index, in Martin nonprofit sector and safety, in Ružomberok nonprofit sector, in Žilina cultural infrastructure and population migration.

The east part of Slovakia includes two regions – Košice and Poprad. In region of Košice we evaluated districts – Košice I-IV, Košice and surroundings, Michalovce, Rožňava, Spišská Nová Ves. The best evaluated potential is in two districts - Košice I-IV, Košice and surroundings. In Košice I-IV is the highest score for the cultural and creative industry in comparison with all evaluated regions. To the other strengths belongs also population migration. The district of Košice and surroundings reached the highest evolution in indicators of aging index, population migration, nonprofit organizations and safety. To the weaknesses in these districts belong the scientific and research infrastructure. In the rest of evaluated district to the best evaluated indicators belong nonprofit organizations, safety and aging index and to the worst evaluated indicators tourism attractiveness and activity and direct foreign investments.

The last group of districts includes districts of Bardejov, Humenné, Poprad, Prešov, Stará Ľubovňa, Svidník and Vranovu nad Topľou. Generally, this part of Slovakia is less developed and also the analysis of creative potential confirmed the weaker preconditions for development. In two districts – Stará Ľubovňa and Svidník were the greatest share of indicators with 0 points, in Stará Ľubovňa – cultural and creative potential, research and scientific infrastructure, foreign businesses and population migration, in Svidník cultural infrastructure, tourism attractiveness and activity, scientific and research infrastructure and population migration. The best evaluated indicator is safety in Bardejov, Humenné, Stará Ľubovňa, Svidník. In Vranov nad Topľou, Prešov and Poprad it is aging age.

To summarize the outputs of the criterial analysis we divided the values of indicators into 4 groups – 0-0,25 – very significant weakness; 0,26 – 0,5 – weakness; 0,51 – 0,75 – strength, 0,76 – 1 – very significant strength and illustrated them with colors by districts and indicators in the table 3.

2014	OCN	KKP	NS	KI	TAktiv.	TAttrakt.	VVI	ZP	MP	PZI	M	IS*	B
BA I-IV.	0,068	0,889	0	0,973	0,306	1	1	0,362	1	1	1	0,16	0
Dunajská Streda	1	0,222	0,133	0,518	0,077	0,025	0	0,34	1	0	0,797	0,413	0,605
Galanta	0,473	0,111	0,333	0,166	0,018	0,01	0,02	0,106	0,333	0,041	0,433	0,278	0,579
Senica	0	0,333	0,5	0,149	0,108	0,027	0	0,191	0,667	0,037	0,359	0,377	0,553
Trnava	0,068	0,333	0,367	0,398	0,036	0,022	0,03	0,149	0,667	0,045	0,48	0,295	0,289
Považská Bystrica	0,027	0,111	0,4	0,119	0,035	0,016	0	0,085	0,333	0,036	0,284	0,35	0,474
Prievidza	0,027	0,333	0,533	0,528	0,183	0,075	0	0,085	0,333	0,042	0,175	0,049	0,526
Trenčín	0,068	0,444	0,333	0,424	0,243	0,117	0,03	0,149	0,667	0,043	0,489	0,119	0,526
Komárno	0,905	0,333	0,033	0,286	0,024	0,007	0,02	1	0,667	0,041	0,443	0,053	0,526
Levice	0,338	0,556	0,6	0,444	0,051	0,011	0	0,277	0,667	0,039	0,29	0,169	0,737
Nitra	0,095	0,444	0,333	0,459	0,087	0,048	0,08	0,128	0,333	0,057	0,489	0,244	0,368
Nové Zámky	0,486	0,444	0,267	0,687	0,104	0,032	0	0,426	0,667	0,04	0,259	0	0,474
Topoľčany	0	0,333	0,433	0,223	0,015	0,007	0	0,064	0,333	0,034	0,321	0,159	0,553
Čadca	0	0	0,333	0,343	0,043	0,016	0	0,191	1	0,034	0,27	0,66	0,763
Dolný Kubín	0	0,222	0,667	0,167	0,092	0,021	0	0,021	0	0,038	0,292	0,633	0,632
Liptovský Mikuláš	0,054	0,333	0,567	0,965	1	0,149	0,02	0,064	0,333	0,037	0,34	0,164	0,5
Martin	0,108	0,333	0,667	0,309	0,052	0,021	0	0,064	0,333	0,043	0,262	0,243	0,763
Ružomberok	0,014	0,333	0,567	0,36	0,375	0,093	0,02	0,064	0	0,042	0,321	0,335	0,5
Žilina	0,014	0,222	0,167	0,774	0,2	0,11	0,02	0,149	0,333	0,085	0,547	0,448	0,316
Banská Bystrica	0,108	0,667	0,333	0,518	0,127	0,051	0,05	0,085	0,667	0,055	0,309	0,144	0,184
Brezno	0,095	0,222	0,767	0,359	0,118	0,016	0	0,021	0,667	0,034	0,216	0,216	0,868
Lučenec	0,459	0,667	0,6	0,147	0,01	0,004	0	0,255	0,667	0,035	0,32	0,456	0,605
Rimavská Sobota	0,635	0,667	1	0,218	0,086	0,014	0	0,106	0,333	0,034	0,273	0,722	0,895
Zvolen	0,108	0,778	0,567	0,189	0,244	0,062	0,05	0,043	0,667	0,04	0,389	0,174	0,395
Žiar nad Hronom	0,108	0,556	1	0,173	0,17	0,044	0	0,021	0,667	0,039	0,302	0,095	0,737
Bardejov	0,135	0,222	0,433	0,309	0,173	0,04	0	0,064	0,333	0,034	0,221	0,705	0,868
Humenné	0,149	0,444	0,7	0,11	0,01	0,003	0	0,043	0,333	0,035	0,208	0,366	0,974
Poprad	0,122	0,556	0,533	1	0,781	0,205	0,02	0,064	0,333	0,039	0,279	0,634	0,526
Prešov	0,122	0,444	0,367	0,465	0,041	0,025	0,03	0,043	0,333	0,047	0,326	0,709	0,684
Stará Ľubovňa	0,23	0	0,7	0,199	0,18	0,038	0	0	0	0,034	0,23	1	1
Svidník	0,297	0,333	0,767	0	0	0	0	0,043	0	0,034	0,287	0,541	0,974
Vranov nad Topľou	0,135	0,333	0,867	0,154	0,02	0,007	0	0,021	0	0,036	0,309	0,908	0,895
Košice I-IV	0,27	1	0,2	0,361	0,07	0,222	0,18	0,128	0,667	0,078	0	0,32	0,105
Košice - okolie	0,257	0,444	0,767	0,34	0,017	0,004	0	0,106	0,333	0,044	0,762	0,933	0,842

Michalovce	0,27	0,667	0,733	0,295	0,033	0,012	0	0,085	0,333	0,038	0,35	0,714	0,632
Rožňava	0,473	0,556	0,933	0,343	0,036	0,005	0	0,149	0,667	0,035	0,244	0,661	0,974
Spišská Nová Ves	0,122	0,333	0,867	0,327	0,091	0,046	0	0,021	0,667	0,035	0,223	0,965	0,895
Trebišov	0,473	0,444	0,8	0,268	0,012	0,005	0	0,149	0,667	0,037	0,263	0,75	0,974

	very significant
	weakness
	weakness
	strength
	very significant strength

Table 3 Criterial matrix of creative potential research in the districts of the Slovak Republic by the character of evaluated indicators

Source: own workmanship

In the next step, we give the weight to each criterion to rank the districts. The weight of criteria is based on the expert opinion of authors.

Group of criteria	I.	II.	III.
Weight of criteria group	0,5	0,17	0,33
Criteria	1 2 3 4 5 6 7 8	9 10 11	12 13 14 15
Weight of criteria group	0,14 0,22 0,11 0,06 0,17 0,08 0,03 0,19	0,17 0,33 0,5	0,3 0,4 0,1 0,2
Standardized criteria weight	0,07 0,11 0,06 0,03 0,09 0,04 0,02 0,10	0,03 0,06 0,09	0,10 0,13 0,03 0,07

Table 4 Weight of researched criteria by the method of gradual scale setting to evaluate the creative potential

Source: own workmanship

By quantification of the criteria in the Slovak districts we identified the ranking of the districts as follow:

Districts			
Region of Bratislava		Region of Žilina	
Bratislava I-V	1	Čadca	30
Region of Trnava		Dolný Kubín	28
Dunajská Streda	2	Liptovský Mikuláš	8
Galanta	11	Martin	32
Senica	18	Ružomberok	19
Trnava	9	Žilina	4
Region of Trenčín		Region of Banská Bystrica	
Považská Bystrica	33	Banská Bystrica	16
Prievidza	37	Brezno	35
Trenčín	7	Lučenec	15
Region of Nitra		Rimavská Sobota	14
Komárno	5	Zvolen	12
Levice	22	Žiar nad Hronom	27
Nitra	6	Region of Prešov	
Nové Zámky	20	Bardejov	34
Topoľčany	26	Humenné	36

Region of Košice		Poprad	10
Košice I-IV	38	Prešov	17
Košice and surrounding	3	Stará Ľubovňa	29
Michalovce	13	Svidník	25
Rožňava	21	Vranov nad Topľou	24
Spišská Nová Ves	31		
Trebišov	23		

Table 5 Ranking of districts in 2014

Source: own workmanship

The ranking confirmed the dominant position of Bratislava District. The second best preposition to the creative development has a district of Dunajská Streda, the third is district of Košice and surrounding. Based on the research results, in the next chapter we identify the possibilities how to develop the creative potential in these cities more systematic with perspective of positive results.

## RECOMMENDATIONS TO THE CREATIVE POTENTIAL DEVELOPMENT AT THE LOCAL LEVEL

The outputs of detail analysis of creative potential are the starting point for the future creative development in the territory. The core of the creative potential development should be a development strategy based on the local specific potential, strengths, weaknesses, need of market and defined problems. In our research, currently, the highest level of creative and cultural industries and cultural infrastructure is in districts of Bratislava, Košice I –IV, Liptovský Mikuláš and Banská Bystrica. However, to develop the creative city, the territory has to include more aspects of potential, including the suitable economic and social conditions for life.

In the literature, we can identify three main approaches to the development strategies based on creativity. The first approach by Hansen (2001 in Costa, Magalhaes, et al., 2006) defines the creative city as a territorial marketing strategy – it is based on demand analysis with the main goal to attract investments, tourists, entrepreneurs or new residents by improvement of attractiveness, competitive advantage or image of a territory. The second approach (Joffe, 2009) prefers the creative city as a tourism strategy – even though tourism has a positive impact on infrastructure, economic situation and residents' self-esteem of a certain territory it is not recommended to focus primarily and only on tourists' segment. They usually have different requirements and needs than local residents which could become neglected. Another problem could be the monotonous type of attractions such as spa or wellness. Landry (2006) suggests territories should focus on a specific, experimental or unique tourist attraction based on local potential, advantages as well as disadvantages. We would add, that this type of a creative city strategy is strongly connected with the marketing one.



By the research results we can recommend to follow these combined strategies to districts of Bratislava, Košice (both I-IV and Košice surrounding), Liptovský Mikuláš and Poprad. All these districts belong to more tourism active and also to the attractive districts for tourists. The districts of Bratislava and Košice should be more oriented at sophisticated areas of creative cities as new IT technologies, production of higher added value, cooperation with the scientific and research institutions, in other words to create “modern creative city” that satisfied the inhabitant’s needs, businesses interests and tourist’s wishes. The districts of Liptovský Mikuláš and Poprad are very tourism attractive because of its location in Low and High Tatras. The level of cultural infrastructure is average in comparison with other Slovak districts as well as the development of creative and cultural industries. The strategies of these cities should be more on tourism oriented that use the cultural and creative infrastructure to enrich the experiences of tourists in the territory. They should be supplemented by other partial activities as sport, relaxing or shopping activities, etc.

The third approach to the creative city is a creative city as a strategy for production or consumption milieu improvement. This approach is suitable for territories where the creative and cultural industries is at higher level developed, it is closely connected with the cooperation with universities and research institutions, businesses and especially with creative people. These features again indicate as the most suitable district – the district of Bratislava. That is why it is necessary to understand the above mentioned strategies as complementary. To succeed in the implementation of agreed development goals it is important to combine creative city strategies. As a kind of support for the Bratislava districts in production, providing services and also the human resources have served already a few districts – district of Dunajská Streda, Galanta or Trnava. This function is given by their localisation in the west part of Slovakia, close to Bratislava.

In the region of Banská Bystrica (central and south Slovakia) is in comparison with other districts cumulatively the highest share of creative and cultural industries. There is also very active non-profit sector, but the problem to develop the strategy based on creativity can be in partnership, communication among relevant stakeholders and orientation of the regional and local policies, that do not support enough this type of development. So we can conclude that there is a potential for development based on creativity but the “external” factors create the barriers to it.

Specific positions have the districts in the east part of Slovakia. Their evaluation by almost all criteria is quite low beside Košice and Poprad. As a first step in development of this area of Slovakia should be some external impulse given by the national government to support the development of these districts, e. g. construction of good highway interconnection between west and east; attracting more investments but not only to Košice as a metropolis of this Slovak part.

In north and northwest districts of Slovakia I, regarding the research results there is no specific strengths or weaknesses except the district of Liptovský Mikuláš. There can be developed a creative and cultural potential as a partial source of future local development, but not with the dominant function, just to enrich the offer for the inhabitants, tourists or businessmen. However, in the close future the position of Žilina district can be changed where during last two years a lot of new activities in IT in cooperation with the universities have been developed, which have been not mirrored in the published results yet.

## CONCLUSIONS

The paper discussed very actual topic of spatial development based on the creativity. With regards to the theoretical issues defined in the first chapter, the paper analyzed the creative potential at the local level - in the Slovak districts in 2014. In the collection of data we identified significant problems with the data availability. We identified 15 main indicators by which we evaluated the level of specific parts of district potential, the strengths and weaknesses of the districts and the order of the districts by the preconditions to develop a strategy based on creativity. Based on the discussion of the research results, we recommend the main pathways in the development of the Slovak districts regarding their potential to be a creative place.

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## THE BUSINESS MODEL CONCEPT AND DISCLOSURE: A PRELIMINARY ANALYSIS OF INTEGRATED REPORTS

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### ABSTRACT

This paper sought to explore how the definition of business model (BM) suggested by the Integrated Reporting Framework (IRF) applies to firms that explicitly refer to the framework. This study adopted a content analysis methodology that focused on the most recent integrated reports available on the website of the International Integrated Reporting Council (IIRC). Specifically, this study compared the level of disclosure presented in the BM section of these reports to the contents suggested by the IIRC. This study also used a four-level scale (i.e., absence of information, qualitative information, quantitative information, both qualitative and quantitative information) to evaluate the 'quality' of the disclosures. Given the preliminary nature of this study, the evaluation model was only applied to 'input' items. The results showed that not all the aspects suggested by the IIRC are being considered by the organizations adopting the framework; however, a prevalence of qualitative disclosure was found in relation to the 'input' items. Thus, it appears that firms prefer to disclose information by providing qualitative descriptions rather than by using quantitative indicators. This paper contributed to the existing literature by providing insights into how the BM model disclosures work in practice.

**Keywords:** *Business model, integrated reporting, content analysis, value creation*

### INTRODUCTION

Despite being a widespread concept, no clear and univocal definition of the term business model (BM) exists. One branch of the literature has used this term extensively; however, several meanings and applications have been applied depending on the context, the organisation and the management approach. Further, while several scholars have tried to explain the meaning of the concept, no common or shared idea has been reached as to what comprises a BM (Magretta 2002; Schweizer 2005). Depending on the context, the term BM has assumed different meanings in relation to different items of research such as strategy (Richardson 2008; Venkatram & Henderson 1998) or value creation (Teece 2010). The origins of the concept of BMs are rooted in numerous disciplines; thus, reaching a unique general definition of the term remains a challenge (Teece 2010). Further, practitioners have failed to

reach an agreement on a common model and few organisations have attempted to resolve this issue. However, the International Integrated Reporting Council (IIRC) presented a formal description of the BM concept and its constitutive elements in its Integrated Reporting Framework (IRF) (2013).

A large number of studies have focused on the theoretical definition of the BM concept (Chesbrough 2010; Lecocq, Demil & Ventura 2010; Teece, 2010; Zott & Amit 2008); however, only a limited number of studies have focused on single case studies (Beretta Zaroni, Vernizzi, Pauletta D'Anna 2014; Chen et al. 2004; Sabatier, Mangematin & Rousselle 2010). Further, to date, no comparative analysis of the practical implications of the BM concept has been undertaken (Klang, Wallnöfer & Haclink 2014). Consequently, the study sought to address the following research question: *How do firms that explicitly refer to the IRF apply the BM definition?*

This paper sets out that the preliminary results of a content analysis of recent integrated reports (available on the IIRC website) that explicitly identified the IIRC's BM section. The analysis considered the level of disclosure presented in these reports compared to the contents suggested in the IIRC's background paper on the BM concept (IIRC 2013).

The remainder of the paper is structured as follows. First, the main issues that arose in relation to BM definitions in previous studies are discussed. Second, the content analysis methodology employed to analyse the integrated reports is described. Third, the results of the analysis are set out. Finally, conclusions are drawn and recommendations made for future studies to ensure a comprehensive analysis of the BM disclosure.

## THE THEORETICAL BACKGROUND TO THE BUSINESS MODEL CONCEPT

The term BM has been used in many articles; however, understandings of the building blocks of the BM concept differ widely. Practitioners and academics (Lecocq et al. 2010; Zott, Amit & Massa 2011) appear to share sort of 'tacit knowledge' about the meaning of the term BM (Baden-Fuller & Morgan 2010; Chesbrough, 2010; Ghaziani & Ventresca 2005; Lambert & Davidson 2013; Lecocq et al. 2010; Magretta 2002; Schweizer 2005; Zott & Amit 2008). However, despite significant efforts, scholars remain far away from achieving from their goal of reaching a widely recognised definition.

Some authors have defined BM by referring to the networked nature of firms, emphasising cooperation, partnership and joint value creation (Chesbrough 2010, Mansfield & Fourie 2004). In this context, Zott et al (2011) defined a BM as the way in which a firm chooses to transact with its customers, partners and vendors. Conversely, other scholars (Teece 2010) taken a wider perspective and, by referring to value creation and the value capture topic, defined BM as the value proposition for customers and the structure of revenues and costs that the firm uses to deliver that value. Other authors have tried to define the term by emphasising its strict relationship with firms' strategies.

Venkatram and Henderson (1998) defined BMs as coordinated plans used to design strategies along three vectors: customer interactions, asset configurations and knowledge leverage. According to Richardson (2008) BMs explain how the activities of firms work together to execute strategies and thus bridge the gap between strategy formulation and implementation. Similarly, Shafer, Smith and Linder (2005) and Casadeus-Masanel and Ricart (2010) both defined BMs as reflecting firms' realised strategies.

Despite the efforts of various scholars and the growing presence of the concept in strategic literature, no one univocal definition of BMs exists and the concept is often used without a clear idea of its theoretical boundaries. There are numerous reasons for the lack of a clear definition of the term, including the interdisciplinary nature of the concept (it is a concept that straddles a number of domains such as economics, strategy and organisational studies). Thus, any attempt to identify a single theoretical framework is both complex and ambiguous (Teece 2010). This lack of convergence is also reflected and highlighted in practice, where finding a univocal definition of BMs is very difficult.

The Financial Reporting Council (FRC) has adopted one of the most interesting positions in the practice-side of the BM debate. Under the United Kingdom (UK) Corporate Governance Code, the FRC (2014b) states that: 'The directors should include in the annual report an explanation of the basis on which the company generates or preserves value over the longer term (the BM)' (p. 16). Further, in the FRC's (2014a) document entitled 'Guidance on the strategic report', states that: 'The description of the entity's BM should set out how it generates or preserves value over the longer term, and how it captures that value. It should describe what the entity does and why it does it. It should also make clear what makes it different from, or the basis on which it competes with, its peers' (p. 21). The FRC (2014 a) also makes explicit references to other relevant parts of the BM description such as the structure of the firm, the markets in which the firm operates and the nature of the relationships, resources and other inputs that are necessary for the success of the business. Thus, the FRC provides a consistent definition of BMs in the area of corporate governance; however, in relation to financial reporting its definition continues to be subject of debate.

In its 2013 bulletin entitled 'Getting a Better Framework' the European Financial Reporting Advisory Group (EFRAG) considered the role of BMs in financial reporting' to emphasise the need for an explicit description of the BM concept. The International Accounting Standard Board (IASB) financial standards only provide one explicit reference to BMs in IFRS 9 in relation to very tight aspect of firms' investment portfolios. Thus, the IRF (2013) provides the only formal description of BMs in a standard reporting document. This document defines a firm's BM as 'its system of transforming inputs, through its business activities, into outputs and outcomes that aims to fulfil the organisation's strategic purposes and create value over the short, medium and long term' (p. 25). In 2013, the IIRC also

published a background paper setting out the results of an exploratory study on the main practices that have developed in the BM field. This paper presented the specific aspects and features that a BM should incorporate (IIRC, 2013). The IIRC (2013) proposed a BM based on a review of literature and a review of current BM reporting practices.

Categories	Aspects
Business Model definition	Definition
Inputs	Financial capital Manufactured capital Intellectual capital Human capital Natural capital Social and relationship capital
Business Activities	Research and development Planning Design Production/conversion Product differentiation Market segmentation Distribution Service provision Quality control Operational improvement Relationship management After-sales services Customer satisfaction Profit/loss Shareholder returns Asset consumption Contribution to local economy through taxes Job creation Employee development and engagement Improved standards of living Environmental impact
Outputs	Products/services Waste Other by-products
Outcomes	Customer satisfaction Profit/loss Shareholder returns Asset consumption Contribution to local economy through taxes Job creation Employee development and engagement Improved standards of living Environmental impact Licenses to operate Others

Table 8. *Coding categories*



## METHODOLOGY

Content analyses are widely employed as research methods to measure the level of disclosure in annual reports and are applied using two main approaches (Guthrie & Abeysekera 2006). The first approach aims to codify the text into categories based on criteria (Weber 1988) that have preferably been defined by previous studies (Guthrie et al. 2004). The second approach considers the use of disclosure indices to evaluate and compare the completeness of disclosure in annual reports (Beck, Campbell & Shrives 2010; Guthrie & Abeysekera 2006).

To understand how BMs have been developed by organisations that embrace the IIRC framework, a content analysis was undertaken on 19 reports selected from the IIRC's database. The data analysed comprised the more recent integrated reports available on the IIRC website that explicitly identified a BM section. The sample included 11 organisations from Europe, three from Asia and Africa and one from Australasia and South America (see Appendix A). In relation to the main industries represented in the sample, five of the 19 reports were from the financial services sector and four from firms that produced basic materials, while the remainder came from economic sectors such as professional services, consumer goods, industrial, utilities, oil and gas and technology.

The research adopted Krippendorff's (2013) approach to content analysis. The context of the analysis was the BM section included in each report. The content analysis was carried out by considering the main aspects indicated in the disclosure map of the background paper on BM (IIRC 2013). A form of sentenced-based coding was used (Milne & Adler 1999). Table 1 sets out the categories based on the disclosure map in the BM background paper and includes an additional category for BM definitions.

No previous study had determined what disclosure quality means in the context of the reporting narrative. However, Lang and Lundholm (1993) did state that a 'quality' disclosure contains both narrative and numerical information. Adopting their approach, the following scale was applied to evaluate levels of disclosure:

- 0 indicated an absence of information;
- 1 indicated qualitative disclosure;
- 2 indicated quantitative disclosure; and
- 3 indicated quantitative and qualitative disclosures.

The analysis adopted an interpretative content analysis approach to capture meanings. More specifically, it first considered the narrative contents disaggregated throughout the disclosure parts of the report and then analysed the analytic components of each of these parts (Milne, Tregidga & Walton 2003; Raar 2002). By distinguishing between four levels of disclosure, the content analysis was

able to provide an enhanced understanding of how the organisations following the IIRC framework interpreted their BMs. Each sentence was first classified into one of five categories (see Table 1). Its specific aspects were then considered and evaluated depending on the disclosure level. The sentences were evaluated in respect of content and discourse; thus, information was gathered on the detailed disclosure quality level (Beretta & Bozzolan 2004). Disclosure level was based on the input sections of BMs. The scores in Table 3 show the extent of disclosure in relation to each presented aspect. The total maximum score for each score was 57 (i.e., 19 firms by three points) while the lowest possible score was zero (Arshad et al. 2013).

## **PRELIMINARY INSIGHTS FROM THE ANALYSIS OF BUSINESS MODEL NARRATIVES IN INTEGRATED REPORTS**

Before examining the reports' specific disclosures, a number of preliminary analyses were run on the context in which the BM narratives were included. The parts of annual or integrated reports dedicated to BMs are usually included at the beginning of reports in sections dedicated to a company's presentation or strategic report or before the report index (e.g., CIMA). Usually BMs were represented using images similar to the image suggested by the IIRC framework. BMs were symbolised as a process of connecting inputs (e.g., capital or other resources), activities, outputs and outcomes. Some reports had more creative representations (e.g., ENI, Itochu, Generali and FMO) of 'circular' BMs or showed more complex connections among different components (e.g., Showa Denki).

The titles of the chapters dedicated to BM representation were sometimes simply entitled 'Business Model' (i.e., in six of 19 cases), or 'How we Create Value' (i.e., in four of 19 cases). However, in other cases the titles expressed a link between the two concepts, indicating that the BM was peculiar to the firm's creation of value (e.g., Aggreko's 'How we create value through our Business Model'). Only one case used a title that did not mention the BM or value creation (e.g., Iberdrola's 'Our assets'). Two pages were frequently dedicated to BMs (i.e., in nine of 19 cases); however, in a large majority of cases (i.e., in 15 of 19 cases), no more than four pages were dedicated to BMs. The mean incidence of BM pages on total report's pages was 5.7%.

In addition to synthetic graphic representations of BMs, firms sometimes expressed their own concepts of BMs in a manner that was similar to a 'slogan' that announced firms' ideas of their businesses. Some of these slogans referred to the activities being conducted by the firms (e.g., Sanford's 'Our Business Model reflects the activities we perform and how they shape our outputs and impacts' or Strate's 'The Business Model represents the process flow of Strate's core services'). Conversely, other slogans focused on firms' strategies (e.g., CIMA's 'Our Business Model describes how we will deliver our strategy. It identifies the resources and relationships that are the basis of our

organisation (...)’ or Rosatom’s ‘a system that (...) is aimed at the achievement of strategic goals’). In other cases, firms defined BMs by the process of value creation, not only for the firm, but also for its stakeholders (e.g., ENI’s ‘Eni’s Business Model targets long-term value creation for its stakeholders’ or Natura’s ‘Guided by our essence, we strive to develop products and concepts that add value for all stakeholders throughout our chain’). The thought of value creation as a process that includes different subjects, interests and perspectives was reflected by some firms that highlighted the idea of sustainable BMs (e.g., Anglo American’s ‘Together we create sustainable value that makes a real difference’ or AngloGold Ashanti’s ‘Creating value and maximising sustainable free cash flow’ or DBS’s ‘Our activities generate sustainable returns, in a responsible manner and we seek to positively benefit the communities we operate in end deliver value to our stakeholder’).

Of the specific categories and aspects presented in the IIRC’s BM, the inputs usually comprised financial capital and manufactured, intellectual, human, natural, social and relationship capitals. These categories correspond to the first column of the disclosure map in the BM paper that includes funding models, infrastructure, intellectual property, people, raw materials, ecosystems services and relationships, respectively. This study found that some types of capital were less represented than others, particularly, natural capital and manufactured capital.

In relation to business activities, similar to the disclosure map, a very large representation of ‘operational improvement’ (i.e., 18 cases) and of ‘research and development’ (i.e., 16 cases), followed by service provision (i.e., 10 cases) and quality control (i.e., 8 cases) was found, indicating that firms view innovation, quality and service as the activities that add the most value. The output section of the model showed that less consideration was given to environmental and natural capital. Notably, descriptions of waste and other by-products were absent in 15 of 19 cases and only two cases included both qualitative and quantitative disclosures.

Inputs Aspects	No disclosure	Qualitative	Quantitative	Qualitative and Quantitative	No. of Reports
Financial capital	3	10	1	5	19
Manufactured capital	6	10	0	3	19
Intellectual capital	3	14	0	2	19
Human capital	2	9	3	5	19
Natural capital	10	6	0	3	19
Social and relationship capital	3	12	0	4	19

Table 9. *Disclosure on inputs*

Finally, the outcomes usually referred to financial results (e.g., profit and loss was referred to in 15 cases and shareholder returns in 13 cases); however, two other categories of stakeholders were also referred to (i.e., employee development and engagement were referred to in 11 cases and customer satisfaction in eight cases). The environment was given greater consideration in this part of the model (environmental impacts were presented in 10 cases).

In relation to the content presented in each aspect of the IIRC's BM, Table 2 and Figure 1 present an example of the first results for the category of inputs and their level of disclosure.

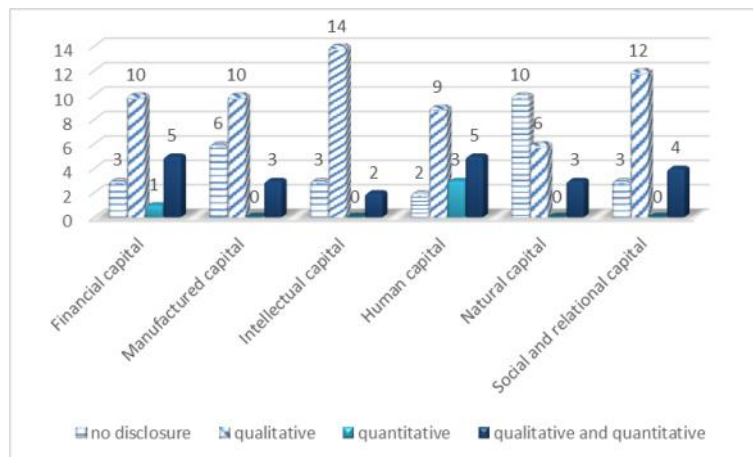


Figure 1 Disclosure on inputs

Inputs Aspects	No disclosure	Qualitative	Quantitative	Qualitative and quantitative	Disclosure level score	Maximum score
Human capital	0	9	6	15	30	57
Financial capital	0	10	2	15	27	57
Social and relationship capital	0	12	0	12	24	57
Intellectual capital	0	14	0	6	20	57
Manufactured capital	0	10	0	9	19	57
Natural capital	0	6	0	9	15	57

Table 10. Disclosure score on inputs

These preliminary insights on disclosure scores show that natural capital and manufactured capital are less represented than the other capitals (see Table 3) and that qualitative disclosure prevails over other forms of input. Except for natural capital, which was not present in the majority of cases, qualitative representation was used in the majority of inputs (i.e., in at least nine reports on human capital), followed by combined qualitative and quantitative disclosures. Pure quantitative disclosure was only used in relation to financial and human capital. The prevailing use of qualitative disclosure

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was questionable given that BMs are intended to be representations of the value creation process of organisations' operational activities.

## **CONCLUSION, IMPLICATIONS AND FURTHER ANALYSIS**

Scholars have spent decades considering how to define the BM and its implications, but have failed to reach any agreement on the concept. Consequently, both academics and practitioners should be involved in any attempts to understand what BMs are and the main implications related to implementing BMs. The majority of studies on this issue have focused on theoretical discourses (Beattie & Smith 2013) and case studies of best practices; however, to date, little is known on how BMs work in practice. Notably, the majority of studies have undertaken descriptive analyses of IR content and its determinants; however, only a few studies have undertaken content analyses of BMs using integrated reports (Wild & van Staden 2013). Consequently, the present study sought to undertake an in-depth analysis of the content elements of BMs and used the IIRC's standard as the starting point to analyse how organisations that embrace this framework disclose their business models.

A content analysis was undertaken to collect preliminary data on the disclosure of BMs in integrated reports. The results showed that BMs were depicted using images similar to the image provided by the IIRC. However, in relation to these BMs, not all the aspects proposed by the IIRC were used for each dimension and, in some cases, these aspects were completely omitted. The inputs usually represented financial capital while natural capital and manufacturing capital were rarely or only briefly described. The business activities analysis suggested that more focus was placed on 'operational involvement' and 'research and development' issues and thus, revealed the importance of innovation to the firms. The outcomes mainly referred to financial results and shareholder returns. Finally, in relation to the input disclosure examples presented, there were more qualitative disclosures than quantitative disclosures or mixed forms of disclosure. Thus, it appears that firms prefer to disclose their information using descriptions rather than quantitative indicators or figures.

The preliminary findings showed that Integrated Reporting (IR) disclosure practices could be significantly improved, particularly in relation to BM sections. Further, managers should adopt better IR practices to gain competitive advantages in terms of reputation and legitimacy. However, it should also be noted that firms could use any attempts to describe their BMs to improve perceptions of their firms' present and future visions and align these perceptions with the perceptions of relevant stakeholders. In this context, the role of set standards could be discussed, in order to gain a better convergence of empirical practices (and firms' disclosure needs) with standards framework and theoretical overviews.

This research had a number of limitations; however, these limitations provide a starting point for further development and analysis. Future studies should consider a wider sample of reports from the IIRC's database, including documents from previous years and reports that do not have a specific BM section. Further, future studies could have two coders undertake the content analysis to increase the reliability of the analysis and provide an agreement coefficient such as Cronbach's alpha (Dumay & Cai 2015; Krippendorff 2004). Despite these limitations, the results of this preliminary study should be viewed as representing the first step in a wider area of research that aims to ascertain the level of disclosure presented under the IIRC framework.

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**APPENDIX A**

Organisation Name	Sectors	Regions	Report name
ACCA	Professional services	Europe	Integrated Report
Aggreko plc	Industrials	Europe	Annual Report
Anglo American	Basic Materials	Europe	Annual Report
AngloGold Ashanti	Basic Materials	Africa	Integrated Report
CIMA	Professional services	Europe	Annual Report
DBS	Financial Services	Asia	Annual Report
Eni	Oil and Gas	Europe	Annual Report
FMO	Financial Services	Europe	Annual Report
Generali Group	Financial Services	Europe	Annual Report
Iberdrola	Utilities	Europe	Integrated Report
Itochu Corporation	Basic Materials	Asia	Annual Report
Natura	Consumer goods	South America	Annual Report
ROSATOM	Utilities	Europe	Annual Report
RSA	Financial Services	Europe	Annual Report
Sanford	Consumer goods	Australasia	Annual Report
Showa Denki	Industrials	Asia	Integrated Report
Strate	Financial Services	Africa	Integrated Report
The Gold Fields	Basic Materials	Africa	Integrated Report
The Sage Group plc	Technology	Europe	Annual Report



# **TOWARD LUXURY BRANDS AND THEIR ONLINE COMMUNICATION: A STUDY OVER PLAYERS EFFORTS AND THEIR SOCIAL ENGAGEMENT**

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## **ABSTRACT**

The transformation of consumer and audience media attitude and buying behavior can be described as such a output of the evolution of the technology and the fall of communication barriers between firms and their target. Marketers and Communication managers are facing new challenges: nowadays people ask for a more transparent and close relationship with organizations they buy product from. This research project assumes that luxury companies are changing their strategic action, in order to communicate with their changing target. Through a research have started three years ago, the intent of this present paper is to empirically and qualitatively examine how luxury brands communication strategies have been evolving during the latest years towards a stronger relationship with a huge variety of different audiences at the same time. The interaction has to follow a continuous way and the will of contents sharing must be the center of every communication effort in order to enhance the experience of consumers and to establish a strong relationship with the audience, since people – today more than 10 year ago – aim to share, aim to feel like they are a part of a certain community. The present research on 100 cases shows that, even in the luxury markets, players who have the most authority and esteem are the ones using social media tools and counting a higher number of impressions on social networks and a higher frequency of video views and shares content online.

**Keywords:** *Integrated marketing communication, user generated content (UGC), luxury goods, mature markets, social networks, reputation, innovation, consumer behavior, brand experience, engagement*

## **INTRODUCTION**

Mature markets consumers and audiences are affected, nowadays, by media continuous evolution. This leads to a consequent different approach between business and target audience even in those markets where, traditionally, the business- consumer has always been top-down (Schultz, 1992). In which way

the technological progress is lived and declined in communication from luxury companies in mature markets? Is to consider that the greater the stratification of a society is, the more languages will be spoken and will be much more complex to analyze consumption dynamics (Mosca et al., 2013). This is especially true for luxury goods (Chevalier & Mazzalovo, 2012), in a context where the use of communication is experiencing a transition from "linear to multi device" (Mattiacci, 2012). The "future" of the luxury communication will be the result of what is appropriate to share and communicate with the target audience manifesting a growing interaction propensity (Tuten, Solomon, 2014) and the present research is investigating how this can happen nowadays. Since many authors have talked about "multichannel marketing" (Venkatesan, Kumar, 2007; Konus et al., 2008; Arikan, 2008; Zhang et al., 2009) and this is no longer a brand new topic, the present research wants to analyze and test some starting points. First of all, worldwide firms, nowadays, look ahead to the integrated communication tools as the most strategic way to improve their assets and business, especially over discontinuities (Casalegno et al., 2012). Secondly, managers have to consider that building a strong brand communication structure could be valid for all the stakeholders as extended audience (Kliatchko, 2008), since communication is not a two-way factor (Grunig, 2001) anymore and it is possible to talk about social media marketing (Tuten & Solomon, 2014).

Since, according to our knowledge, little has been written about the impact of social media strategies on luxury players audiences, the present research wants to investigate how luxury brand communication has been evolved in the latest years, it focuses the attention on the analysis of social and viral marketing trends, it wants to give managers new suggestions in order to better manage new communication tools starting from the data collected through the case analysis.

## **LUXURY GOODS SOCIAL AND VIRAL COMMUNICATION FOR A WIDER AWARENESS**

While the power of mass media is undergoing a decline, due above all to generation Y media attitudes, there is a growing interest in new media generated by the consumers themselves, or the so-called user-generated content (UGC): blogging, podcasting, online video (eg : Youtube, Vimeo), social networking (Facebook, Twitter, Printrest, Google plus). Internet is getting the real "backbone of the media system" (CENSIS, 2012); Tapscott and Williams (2006) define social networks as a "mass collaboration"; according to the authors, audience participation and globalization are changing markets and organizations which are giving to social networks a special place in their strategy. The trend sees all organizations dealing with the programming of a communication plan that integrates all the tools with which they intend to interface with their stakeholders (Schultz et al., 1993; Romano, 1988; Krugman et al., 1994; Collesei, 2002; Duncan, Mulhern, 2004; Aiello, Donvito, 2005; Collesei, Innovation, Entrepreneurship and Digital Ecosystems

Ravà, 2008; Belch, Belch, 1998, 2009). Companies need to augment their process of information and experience creation and exchange, providing to users and brand followers content and additional services, together with dedicated spaces. The concept of integrated marketing communication - strictly related to the integrated firm communication (Romoli Venturi et al., 2014) - becomes inseparable from the one concerning common values sharing with stakeholders: this “sharing attitudes” is taking worldwide firms to stress their efforts in order to reach a major audience engagement, able to take to a higher degree of brand attractiveness (Gensler et al., 2013). In this context, consumers in mature markets have been characterized by a series of changes that led to contradictions and to the concept of polarization (Mosca et al. 2013). It is thus possible to consider three macro trends that will contribute to a substantial change in consumption related to competitive environments considered (Corbellini & Saviolo, 2007): the search of experience and personal gratification is the first trend to consider. The decade in which we live (2010-2020) is characterized by the centrality of the experience (Mosca et al., 2013). The focus is no longer on “what”, but on “how” people buy things. Therefore, Kotler (2006, 2009) third “P” - distribution - is becoming increasingly important in major luxury markets strategies and the point of sale becomes the final touch point in the integrated communication process. Here the consumer can impart, through tangible and intangible elements, the image of the brand itself (Mosca, 2011). The second is the technology pervasiveness. Nowadays, it is evident the overwhelming role technology has had on the purchase and use of goods scenario. In fact, thanks to advances in innovation, final consumers have changed their behaviour and role in the purchase, from passive to active users, expressing the desire to produce content and participate to products and services development of what they are “invited” to consume (Mosca et al., 2013). The information technology increasing development (Rifkin, 2000) and the continuous compression of products life cycle reinforce new consumption mechanisms will be focused not in the possession of the product, but in wealth and consumption experiences sharing. Eventually, the third is named iper-mediation (Corbellini & Saviolo, 2007). The social stratification, in fact, has always been the basis of the luxury and fashion goods consumption in a ostentatious logic, this logic has always been related to show the others. To these motivation, that could be defined “historical”, in recent years it is to add others consider luxury consumptions to satisfy personal needs, well defined as “self realization” needs (Mosca, 2011).

The contemporary presence of these two different consumption logics have taken to the birth of some bubbles demand (Brondoni, 2007), they are paradoxes, new buying behaviours. In recent years researchers and managers can find that various consumption forms are living together: from the more traditional buying behaviours (well described in the Conspicuous Consumptions Veblen Model), to the birth of the *connaisseurs*, ecc (Corbellini & Saviolo, 2007). This is due to the on-going changes related to purchasing schemes used by a customer defined (Okonkwo, 2010) as smart, well informed,

always looking for brand new experiences and relationships. He/she is powerful, influent, individualist, but at the same time he/she looks for constant connections with the community.

## RESEARCH QUESTIONS

In order to better define development trends in luxury markets communication strategy, the case analysis method has been considered to underline, when possible, different and similar firms' media attitudes. The analysis has been based on ways through which global luxury goods firms integrate their communication tools each other, by focusing the attention on social media communication strategies. Going deeper, the social analysis has been based on data coming from the daily view (in three different periods) of major online platforms' generated traffic.

Questions the present research wanted to answer to were the following:

(q1) How luxury companies uses online and social tools normally used in mass markets and which is the most social active luxury market?

(q2) Which kind of content is the most published? With which engagement?

(q3) Which correlation exists between number of fan/followers and frequency of content publication?

## RESEARCH METHODOLOGY

In order to test the most suitable methodology to use and whether it made a sense to investigate over luxury players and online social communication platforms, a first attempt (it was more like an exploratory study, actually) over the use of those platforms by luxury players had been carried out in 2013, having considered 30 international cases. Cases had been chosen to represent in an equal way different luxury brands markets and the aim of that research was to estimate not just the on line presence, but even the contents different players posted in order to get in touch with the online audience (Mosca et al., 2014). The surveys of the online presence of the analyzed firms have brought us to identify Facebook, Twitter and YouTube as our field of research in order to have complete data for every considered case. Moreover the analysis has been carried out at three different times. A first analysis was carried out on a daily basis from April 14th 2013 to May 14th 2013, while a second one was carried out after 10 months (March 14th 2014). This kind of analysis has been chosen in order to test, in a first time, how good the used method would have been. This first analysis took to authors to the consideration that luxury players aim at utilizing web 2.0 strategies in order to attract the attention of customers and potential ones enhancing their brand engagement. Thus, in a second time, the analysis has been enlarged and enhanced including other luxury brands to reach the number of 75. The

observation of the social traffic around every brand has been carried from the 14th of April until the end of June 2014. In the third step, we have considered to enlarge the sample up to a number of 100 cases and this time the collection of data period considered the last three months of the 2014. It is to underline that the results analysis of this paper concerns this last part of the research and it refers to the 100 cases sample.

Considering the final analyzed sample, it is to underline that this research can cover the majority of known luxury brands, chosen and investigated in order to represent in a balanced way every luxury product market. Although we tried to build a balanced sample, considering the various luxury markets, its composition is the following and as it is easy to see, the apparel and fashion market is the most populated.

- Perfumery and cosmetics: 10,67%
- Wines and spirits: 9,33%
- Jewellery and watchmaking: 12%
- Automotive: 12%
- Apparel and fashion: 52%

In every case the intent was to understand how luxury markets players want to use online tools, which are generally used in the field of wide consume and, more importantly, what kind of reaction from the audience these media strategies generate in a long while. Thus, the calculation of the social engagement has been carried out with the aim of understanding the way through which luxury players impact to their audience.

## RESULTS ANALYSIS AND FINDINGS

The analysis allowed estimating the "social media activity" of the analyzed firms operating in luxury markets, not only in quantity (number of like, followers and share), but also in terms of quality on the basis of the published on line content.

Comparing the social activity of the analyzed firms in the three steps, at the beginning of our research the 100% of the cases had a Facebook page (but at that time we just considered 30 cases), while only the 73% a Twitter account. At the end of the study (December 2014) these data could have been confirmed with a difference: the 98% of the considered sample had a Facebook page (we talk about the 100 considered cases), while 90% had a Twitter account. It means that Twitter has been increasing its

importance among luxury firms. Considering the (q1), the case analysis has helped the research to underline the social media use. After a first glance, we haven't considered the use of LinkedIn due to its scarce use by luxury firms (Mosca et al., 2013). We also have not considered Instagram due to the fact that almost the 12% of the sample doesn't utilize it. Moreover, results highlight firms use "pop" platforms as Youtube to disseminate short films can give the chance to build the idea of "dream" and the dreamlike landscape typical of the communication of the luxury brand.

SOCIAL MEDIA PLAYERS PRESENCE	
FACEBOOK	
ENROLLED: 98	NOT ENROLLED: 2
TWITTER	
ENROLLED: 90	NOT ENROLLED: 10
YOUTUBE	
ENROLLED: 92	NOT ENROLLED: 8

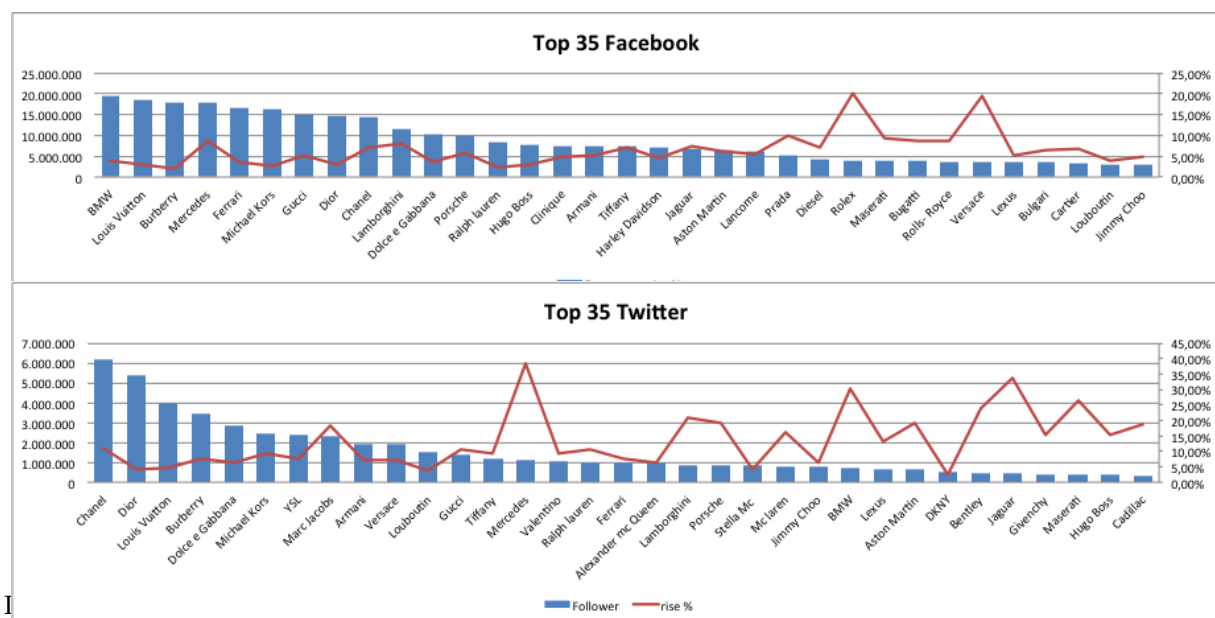
Table 1. *Sample social media presence*

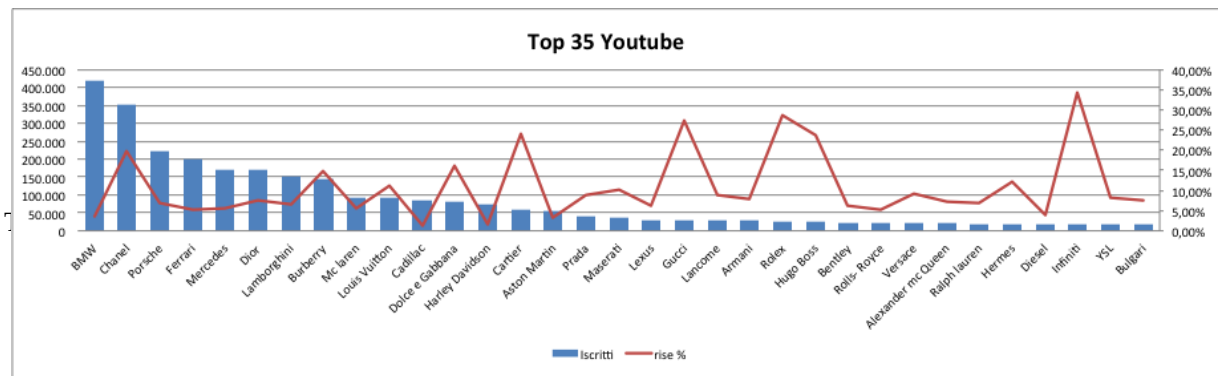
Considering the social presence, Facebook is the most preferred platform by the analyzed cases, even if YouTube is able to generate a major online traffic, calculated through the count of the raise of fan and follower during the last analyzed period. To reach this result it has been calculated the sum of every analyzed case fan/follower social rise. Wine and spirits sector is the one investing less in social communication.

Table 2 *Fan/follower rise*

Quarterly rise (Oct-Dec 2014)	Facebook	Twitter	Youtube
Fan /follower rise	8,35%	11,72%	12,03%

Table 2 *Most utilized social media use*



Table 3 *Top 35 Facebook and Twitter contents*

Perfumery & Cosmetics					
TOOLS	CONTENT				
	% Link	% Pictures	% Video	% promotion	% entertainment
Facebook	6,49%	67,42%	6,09%	61,17%	18,83%
Twitter	32,14%	37,43%	3,76%	42,70%	30,63%
Fashion & Accessories					
TOOLS	CONTENT				
	% Link	% Pictures	% Video	% promotion	% entertainment
Facebook	3,72%	90,70%	5,58%	62,07%	37,93%
Twitter	28,11%	67,39%	4,49%	53,73%	46,27%
Automotive					
TOOLS	CONTENT				
	% Link	% Pictures	% Video	% promotion	% entertainment
Facebook	2,59%	88,20%	9,20%	60,69%	39,31%
Twitter	11,30%	72,26%	16,44%	69,57%	30,43%
Jewelry & Watches					
TOOLS	CONTENT				
	% Link	% Pictures	% Video	% promotion	% entertainment
Facebook	4,36%	88,45%	7,19%	71,42%	28,58%
Twitter	26,69%	70,49%	2,82%	60,83%	39,17%
Wine & Spirits					
TOOLS	CONTENT				
	% Link	% Pictures	% Video	% promotion	% entertainment
Facebook	5,87%	83,03%	11,10%	48,84%	51,16%
Twitter	33,61%	64,39%	2,00%	59,33%	40,67%

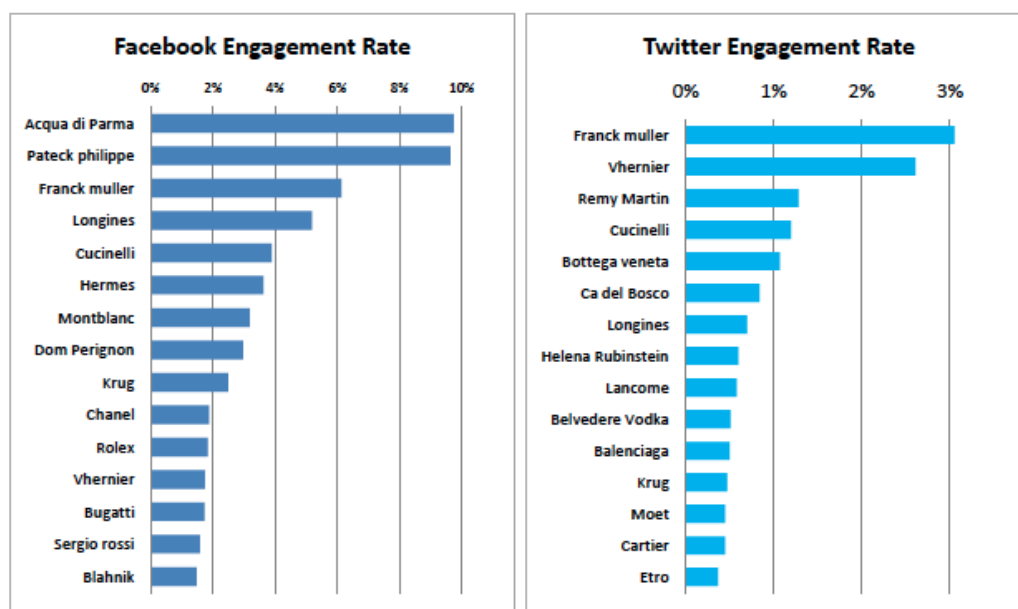
Most published contents by companies (q2) have a promotional intent (heritage, storytelling, events and celebrities). Shared contents recount heritage, so this refers to the tradition, the experience and the work behind prestigious products. This have a huge impact above all on consumption aimed to satisfy the “self realization” (Mosca, 2011). Considering that YouTube is largely utilized for the storytelling and for building that dreamlike sense, which characterizes the high symbolic value brands, the analysis towards contents shared by using social networks has been conducted considering Facebook and Twitter. Results are the following and the table 4 presents the way through which various brands want to communicate (Tools are: links, pictures, videos) and the kind of communication they want to spread (if promotion or entertainment).

Concerning the engagement of the two social networks above, a valid indicator could be represented by the so called *Average Engagement Rate* coming from Socialbakers. In order to consider, as stated by Peters, Chen, Kalpan, Ognibeni e Pauwels (2013), the different weight of every social action and every peculiarity of it, this KPI has to be weighted as follows: Facebook engagement rate =  $\{[(\text{Likes} + \text{Shares} * 3) / \text{n. of daily post}] / \text{fan}\} * 100$

Twitter engagement rate =  $\{[(\text{Retweet} * 2) / \text{n. of daily tweet}] / \text{follower}\} * 100$

Results are the following.

Figure 1 *Top 35 Facebook and Twitter social engagement – The TOP 15*



Concerning the kind of relation among the three social we have chosen to analyse (q3), considering the different increases of visibility, the research has focused the attention on the possible correlation between the Facebook and Twitter engagement, the one concerning Facebook YouTube official channel engagement and visualisations, the one concerning the increase of Twitter and YouTube engagement. In which:  $C(x;y)$  is the correlation to test;  $x$  is the augment of Twitter and YouTube engagement;  $y$  is how much can augment the engagement of Facebook. Results can be interesting because empirically show what is possible to reach by simply using the qualitative knowledge of social media use. Correlations are weak between the Facebook and YouTube engagement (0,18) and between Twitter and YouTube engagement (0,29), but there is a strong correlation between Facebook and Twitter engagement (0,72). Considering other correlations, there is a strong correlation between the number of twittes published and the rising of Facebook fan/follower (0,65), but there is a weak correlation between the number of tweets and the YouTube increasing of videos visualizations. By



summarizing, Facebook and Twitter are linked together, while the other social networks are not so much. Considering this, when a player wants to implement a social strategy, it has to consider that Facebook and Twitter mutually augment their engagement.

## MANAGERIAL IMPLICATIONS

Whereas, therefore, the web experience is based on the exchange, sharing and collaboration, consumers of luxury in mature markets are certainly not been immune to this revolution.

In particular, among the luxury markets the apparel and fashion market is the most populated, and the most published contents by luxury brands are promotional (heritage, storytelling, events and celebrities). The most relevant contents are focused on heritage, the tradition, the experience and the work behind prestigious products, and this factors of the brand and product concept are communicated with the most used social media that are Facebook, the most preferred platform by luxury brands and YouTube that is able to generate a major online traffic. Instead, they need to share their passion for luxury brands with other users on the network and trust you more and more of the opinions of the latter "acquaintances unknown" within the forum or blog. This is what literature sustains (Okonkwo, 2009): since the luxury is an identity, a concept – rather than a good or a service – luxury firms have to face the internet challenge if they want to lever on the emotion and they want to share their philosophy and their emotional values (Okonkwo, 2009) strictly tied to the brand.

The existing literature (Campbell *et al.*, 2011) has already understood that even in these particular markets it is possible to use democratic tools like internet and social medias, in order to improve values sharing and audience commitment, but little has been written concerning how to develop a stable long-term relationship with the luxury target. The results of this research can serve as a framework for all organizations wishing to compete in the luxury good markets. It considers that, especially in this particular competitive environment, consumers are looking for a deep and intimate relationship with brands that emphasize recognition, respect, dialogue and collaboration. On the contrary, they tend to reject those brands that do not damage their involvement and attention they require. In addition, they tend to abandon those brands that are not able to convey experiences, values, and, above all, excellent product concepts consistent between the real world and the online environment. In this perspective, the integration between communication and distribution its increasing importance in the management of luxury brands.

It is also confirmed that, from the integrated marketing communication perspective, luxury markets players have to apply the same approach, but not with the same contents, of the consumer goods ones in the use of media tools. The integration between traditional communication, new media and

distribution is strategic to renovate a luxury brand and transfer to the consumer the sense of modernity and innovation of the brand.

It is crucial for luxury players to build long lasting and strong relationships based on trust, able to provide customer loyalty in a second time.

Adopting a managerial perspective, multichannel marketing thus endeavors to understand, design, coordinate and exploit different channels with the aim of increasing in time the value generated by the customer base (customer equity) through targeted actions of acquisition, retention and development. Taking advantage of the potential provided by such an approach to multichannel marketing, firms are able to manage the increasing variety of demand using the potential flexibility of communication offered by digital technologies.

In this perspective, multichannel management policies can provide a decisive contribution to the acquisition of new market segments and therefore to growth in size. At the same time, customer relationship management can benefit from careful channel management, collecting new and uncommon information on consumer habits, being able to use digital environments as a privileged laboratory for behavioral observations. Finally, the customer base can be incentivized to continue the relationship thanks to the incremental value generated by supply in terms of greater availability and systematic adaptation of the channels of contact with the company on the basis of consumption opportunities but also of the evolution of the relationship's life cycle.

The virtual channel substantially changes the processes and activities of the distribution chain because products purchased online are often the same products purchased offline, but with different service and information content. It is essential that the different sales channels – physical and digital – be integrated in order to have a complete view of customer behavior (customer journey). A consumer may decide to purchase online from a physical point of sale, or vice versa may buy offline from the point of sale only after visiting the online site, and in the physical point of sale can access multimedia content that helps give value to the purchase. The increased penetration of digital environments, in their different forms, feeds the growth of consumers who associate new activities with the traditional rituals of consumption; searching for information about products and brands, comparing the prices offered by different selling points, choosing the nearest point of sale, are activities now largely carried out with digital tools. The spread of multichannel marketing encourages customer interaction and helps the company to capture market changes in a timely manner. The use of multiple platforms to reach the public offers firms the opportunity to achieve a number of business advantages: it increases the ability to receive comprehensive feedback on what the customer wants and what the company can improve. Brands can achieve significant benefits in terms of customer loyalty. It increases sales. Multichannel retailing, by offering a variety of points of contact, both physical and digital, with the

customer, increases the convenience and ease of purchase, thus increasing profit. It increases productivity: employees can benefit from the use of new technologies to achieve greater efficiency in customer service.

To manage multichannel marketing in the best possible way, attention must be focused on the customer rather than on the channel, because today the customer is considered an integral part of the production process. Moreover, when we talk about social networks, as virtual communities and showcases, the consistent and strategic presence of luxury brands on them can augment the potential of generating profit, engagement and awareness, by transforming the traditional communication from firm to customers in a relationship we can describe as transparent and closer. Consumers too can reap benefits from a multi-channel approach: easy access to information, savings in time, opportunities for interaction, shorter delivery times. Virtual and digital points of sale characterized by the immediate availability of the product are often preferred by consumers.

## CONCLUSION AND RESEARCH LIMITS

To conclude, luxury firms managers can benefit from a larger consideration of online communication strategies, since their audience is everyday more used to social platforms. The literature can help them by analysing case studies and defining trends and best practices to follow. Of course, this present research presents some limits that can be turned in further steps. The biggest limit is that it is necessary to enlarge the period of observation, because the trend is in rapid and constant development. Secondly, it would be advisable to test, from a consumer side, luxury global users perception of the contents developed in the social media, not only in mature markets but also in the emerging ones.

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# THE IMPACT OF CEO CHARACTERISTICS IN INFLUENCING THE ORGANIZATIONAL CULTURE AND ITS ABILITY TO ESTABLISH AND DEVELOP NETWORKS

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## ABSTRACT

This paper presents a brief literature review on CEO characteristics, organizational culture and cooperation networks, dealing in particular with the influence of both observable and psychological characteristics, and of social capital, in the culture of the organization, and on its ability to create and develop cooperation networks.

The purpose of this paper is to present a conceptual model that by integrating the constructs referred enables to explore the potential existing relationships among them.

Based on a combination of grounded findings and literature in each field, as the Upper Echelons theory (Hambrick & Mason, 1984), to assess the observable characteristics; the Big Five framework to study the psychological characteristics (Costa and McCrae, 1992); and of the Competing Values Framework (Kalliath, et al., 1999) to explore the organizational culture, a new conceptual model emerges.

A conceptual framework is developed whereby the CEO observable and psychological characteristics, and social capital; organizational culture are due to influencing the ability of the firm to establish and manage cooperation networks.

**Keywords:** *CEO, Big Five Personality Dimensions, Culture, Competing Values Framework, Network.*

## INTRODUCTION

The shifting patterns of international trade, the new forms of competition and the rapid technological changes have forced many firms to rethink their market approaches, and consequently their strategies, structures and management processes (Miles & Snow, 1986).

As a result, there is a change in the focus of organizational theory, including not only the internal processes of organizations, but also in the organization–environment interface (Håkansson & Snehota, 2006). Firms are more and more aware that are members of a network, in which they not only act and react, but above all, they interact (Ford, Gadde, Hakansson, & Snehota, 2002). Therefore, the options and actions of each firm depend on other firms' options and actions, which reflect their executives.

Executive actions substantially shape the fate of enterprises (Hambrick & Quigley, 2014), but already the Upper Echelons Theory had mentioned the influence of Top Management Teams (TMT) in the outcomes of an organization (Hambrick & Mason, 1984). Executive attributes shape not only organizational performance but also business, corporate, and international strategic profiles (Carpenter, Geletkanycz, & Sanders, 2004).

Therefore the aim of this research is to find out whether the personal characteristics of the managers may influence the organization in terms of culture, and consequently in their ability to establish and develop cooperation networks.

This paper begins with a brief literature review on the CEO, his psychological and observable characteristics and his social capital; on the organization and its culture; and on networks with complementors, competitors and universities. Then, research hypothesis emerge and a conceptual model is developed. At last, some limitations of the work and orientations for further research are presented.

## **THEORETICAL FRAMEWORK**

The actions and decisions of a small number of people within the organizations are largely reflected on how the organization perform the way they do, therefore the importance of comprehending top executives experiences, values, social capital, aspirations, abilities and other features (Finkelstein, Hambrick, & Cannella, 2009).

## **THE CHIEF EXECUTIVE OFFICER (CEO)**

Organizational outcomes depend on values and cognitive bases of the most powerful actors in the organization (Hambrick & Mason, 1984). There is a connection between the performance of the organization and the top managers who manage it (Hambrick & Mason, 1984), the so called Chief Executive Officers (CEOs). Later, Papadakis and Barwise (2002) found that the characteristics of the CEO and of other top team members had an impact on strategic decision-making processes.

Furthermore, CEO's enjoy a dominant position within TMT so it is interesting to discover how they influence organizational strategies, culture, structures, outcomes and performance (Finkelstein, 1992). The CEO is probably the most powerful member of the top management team (Crossland & Hambrick, 2007).

When the influence of CEO characteristics are studied most of the research focuses in the impact of the observable variables, and less in psychological features. Nevertheless, it is recognized the importance of these in the way organizations work. In fact, Van Gils (2005) studied the characteristics of the entrepreneur/manager, of the TMT and of the board of directors in Dutch SMEs and found that two

thirds of the CEOs created their TMT. And, that both combine their industry and functional knowledge to create the firm know-how, and concluded that entrepreneurs/managers should be aware of the strategic knowledge and networking advantages that a TMT can offer.

#### *Psychological characteristics*

The Upper Echelons (Hambrick & Mason, 1984) defend the idea that organizational outcomes reflect TMT characteristics, values and cognitive bases. However, Hambrick (1984) focused the research only on some observable variables like age, education, financial position, functional background, group heterogeneity, socioeconomic roots and other career experiences, once he found that top executives tend to be reluctant to participate in psychological tests. Therefore, to assess the CEO personality it will be used the Big Five framework (Digman, 1989).

#### *The big five personality dimensions*

The Big Five framework has been widely used as a research model of personality, mainly by psychologists, however it has been used by management researchers as Barrick and Mount (1991). Over the past few years some authors have studied the influence of personality dimensions on job performance (Barrick & Mount, 1991), others studied the implications of the Big Five for research and practice in human resources management (Mount & Barrick, 1995), others focused on the decisions to become and stay self-employed (Caliendo *et al.*, 2014).

More recently the Big Five Personality 'traits' have been used to study the influence of the five dimensions on the entrepreneurial personality (Zhao, 2006; Antoncic, et al., 2015).

This framework is a hierarchical model of personality with five factors or 'traits', suggesting that most individual characteristics can be grouped into five personality dimensions: Extraversion, Emotional Stability, Agreeableness, Conscientiousness, and Openness to Experience (Digman, 1989). These five 'traits' and their impact in human personality were proficiently explained by Costa and McCrae (1992).

The first factor – Extraversion – suggests the individual is talkative, assertive, with energy and enthusiasm when presents a high score, if not he is seen as cautious, introverted and quiet.

Agreeableness – the second 'trait' – reveals the tendency of a person to easily agree with others. A person with high score is seen as altruistic and trustworthy.

The third dimension – Conscientiousness – shows the individual is reliable, responsible, organized, if classified with a high score. This is often considered a good indicator of a person job performance.

Emotional Stability - the fourth factor – suggests that a person tends to react with impulsiveness and anxiety when the score is low, or tends to show some self-confidence, if the score is high.

At last, Openness to Experience puts into evidence how a person is open to new ideas and experiences. An individual with low score is seen as narrow-minded, while one with high score is regarded as being creative and reflective.

#### *Observable characteristics*

There are some observable characteristics whose effects in firm performance are important to analyze, as demographic elements, managerial tenure and functional background (Song, 1982; Bantel & Jackson, 1989; Finkelstein & Hambrick, 1990).

#### *Age*

Decision maker's age is negatively related to firm global strategic position, the younger the manager the more likely he is to engage in collaboration networks and follow internationalization strategies (Carpenter & Fredrickson, 2001). So, age matters.

#### *Education*

The education background of the executives reveals their knowledge, their values and their skills, which may have an impact in organizational performance, as defended by the Echelons theory (Hambrick & Mason, 1984). So, formal education matters.

#### *Functional background*

The effect of the executives' functional background and experience of the CEO are significantly related to the diversification strategy of a firm (Song, 1982).

Functional heterogeneity also influences a firm global strategy. In low uncertainty environments, the more functional heterogeneous are the executives, the more likely is the firm to adopt a global strategic posture (Carpenter & Fredrickson, 2001). So, functional background matters.

#### *Managerial tenure*

Managerial tenure has an impact on a firms' global strategic posture, in both high and low uncertainty contexts. Managerial tenure is positively related to a firm global strategy, in low uncertainty environments, but negative in highly uncertainty contexts. The more diverse is the management team in terms of tenure, the more global is the firm in a context of low uncertainty (Carpenter & Fredrickson, 2001). So, managerial tenure matters.

#### *Social capital*

Organizations are largely affected by social relations, since "economic action is embedded in structures of social relations" (Granovetter, 1985, p. 481).

Firms may enjoy a strategic advantage when individuals are members of multiple and separated networks, as they gain access to different sources of information and resources (Burt, 2000).



Social capital may explain the success achieved by different individuals and companies in the competition they face every day. The actions of individuals and groups can be really facilitated by their direct and indirect connections to other actors in social networks. The main aspect of social capital is not about what you know, but about whom you know (Woolcock & Narayan, 2000).

Also, it is more and more frequent, a person being considered by what he is, but also by who he knows, and by who does he relate to, this is by his network. If a manager used his personal social relationships to create business for the company he worked for, it means that organizational social capital was created on the basis of an individual social capital (Inkpen & Tsang, 2005).

The benefits of social capital can be noticed in the influence, information and solidarity exchange among actors of a network, the so-called “bonding” social capital, and in the relations of one members to others, the named “bridging” social capital. The characteristics of social relations that contribute for the development of social capital are based on the opportunities born within the relations’ network (Kwon & Adler, 2014).

## THE ORGANIZATION

Organizations are open systems once they depend on the continuous exchanges with the environment (Katz & Kahn, 1966), and they must adapt to the environment if they want to survive and prosper (Hambrick D. C., 1982).

### *Culture*

There are many definitions of organizational culture, and many kinds of organizational cultures, nearly every firm has its culture (Melé, 2003).

However, it usually refers to the values and beliefs that provide norms about expected behavioral patterns that employees might follow (Schein, 1992). Those shared values work most of the times as guidelines to members’ behavior. Schein (1984) presents culture as a set of assumptions one makes about a group they belong to, and those assumptions can be grouped into three levels: artifacts, espoused beliefs and values, and basic underlying assumptions differentiating the levels at which organizational culture manifests.

So, as to assess if a given culture “is an effective and efficient coordination instrument” (Buschgens *et al.*, 2013, p. 763), Quinn and Rohrbaugh (1983) developed the Competing Values Framework (CVF) which is one of the most widely used model in organizational culture research. It was originally developed to assess organizational effectiveness, however it became quickly an important tool to explore the organization value system (Kalliath *et al.*, 1999).

The CVF (Figure 1) considers that two dimensions of competing values can feature most organizations (Kalliath *et al.*, 1999). The first one, flexibility/decentralization-control/centralization show the Innovation, Entrepreneurship and Digital Ecosystems

importance given to control within the organization. The second dimension, show the internal-external focus, revealing how concerned the organization is with what happens within its limits or in its environment and relationships with stakeholders.

Each axis represents a dimension, by cross-classifying them it results in four quadrants, each one associated to a type of culture. However, an organization can rarely fit in one quadrant, in fact it will show values from different quadrants, with more emphasis on one or two quadrants (Buschgens *et al.*, 2013).

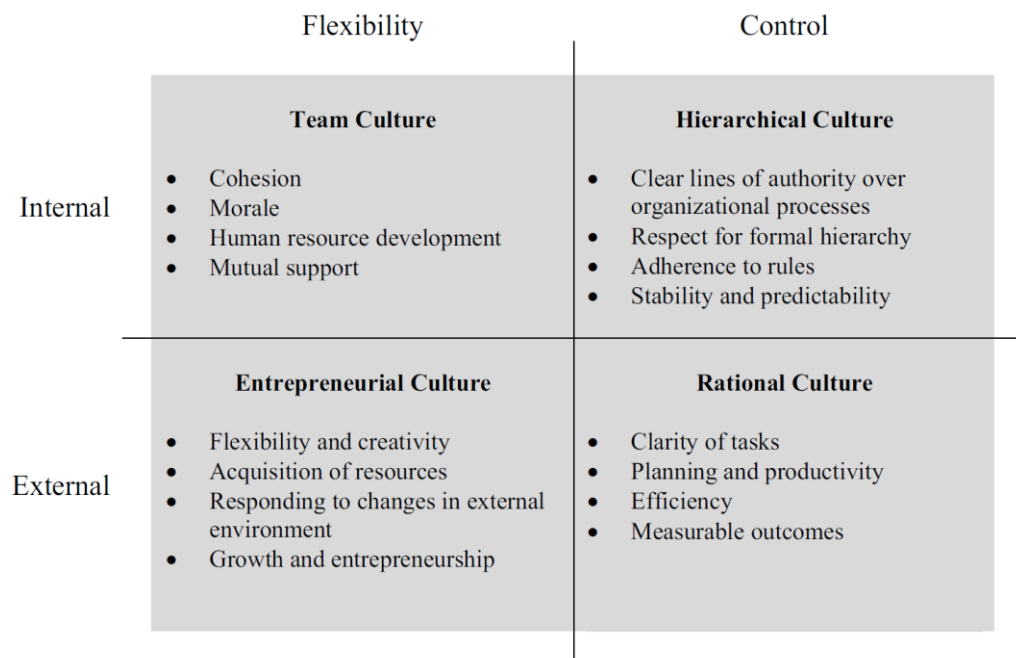


Figure 1. The Competing Values Framework of Organizational Effectiveness.

*Adapted from Kalliath, Bluedorn, & Strube (1999). "A confirmatory factor analysis of the competing values instrument." Educational and Psychological Measurement, 59 (1) in Helfrich, C.D. et al. (2007) "Assessing an organizational culture instrument based on the Competing Values Framework: Exploratory and confirmatory factor analyses."*

Organizations with values reflecting an internal focus and emphasis on flexibility - "Team Cultures" - encourage decentralization, autonomy, mutual help, empowerment and teamwork (Helfrich *et al.*, 2007).

In the opposite side of the axis, there are organizations with values showing an internal focus and emphasis on control, reflecting "Hierarchical Cultures", which tend to show centralized authority, formal rules and procedures, good definition of the employees' responsibilities, as stability is a goal (Helfrich *et al.*, 2007).

Organizations with values revealing an external focus and emphasis on flexibility - “Entrepreneurial Cultures” - are usually considered open systems, favorable to creativity, innovation, and risk takers (Kalliath, *et al.*, 1999).

Finally, organizations with an emphasis on control and external focus - “Rational Cultures” - are known for pursuing efficiency and measurable outcomes (Kalliath *et al.*, 1999).

In any case, whatever the type of culture, the most important is to understand the impact of organizational culture in the way organizations work (Schein, 1996).

## THE NETWORK

The business context is now seen as a web of relationships, a network, replacing the old view of independent suppliers and customers (Johanson & Vahlne, 2009).

Networks may help a firm to enhance their competitive advantage once a network provides external access to tangible and intangible resources of other network members (Davies *et al.*, 1995). A network usually enables the firm to have access to information, resources, technologies, markets, and knowledge, being their relationship building ability a source of sustainable competitive advantage (Batt & Purchase, 2004).

A network can be defined as a set of companies and the relationships among them, being the boundaries of a firm network difficult to define, because if it is considered only the group of companies with which the firm cooperates then the view of the organization context becomes very limited (Ford *et al.*, 2003).

The management of a network is a result of the interactions that occur among the individuals in the network, so no individual alone controls the network (Batt & Purchase, 2004).

Firms do not depend only on their individual efforts to survive, they also depend on the activities and performance of other firms, and on the relationships, they maintain with their partners (Wilkinson & Young, 2002). In fact, “a firm is embedded in a network of ongoing business and nonbusiness relationships” which may work as enablers or inhibitors of firm performance, therefore firms should be looked as part of “business systems” (Ritter *et al.*, 2004, p. 175).

### *Complementors*

A firm has a complementor when customers consider the product to be more valuable when they also have the other firm’s product rather than when customers experience the firm’s product alone (Brandenburger & Nalebuff, 2011).

For Ritter *et al.* (2004) a complementor firm develops relationships with different types of firms whose products or services increase the value of their own outputs.

The existence of complementary products increase the value offered to the customer and consequently the size of the market increases. The key to solve eventual disagreements abides on the relationship management, by deep understanding their capabilities, strategies, goals and their incentives to cooperation, without neglecting any potential areas of conflict, and thus benefit from the opportunities a cooperation relationship may offer (Yoffie & Kwak, 2006).

### *Coopetition*

Cooperation may exist among apparent rivals, and sometimes there are cooperation and competition activities between business companies, or sometimes actors compete in some attributes of their interactions and cooperate in other aspects with other members (Ford & Häkansson, 2013).

Firms compete with each other in order to create competitive advantages and deliver value to the customer, shaping the network of relationships among firms (Wilkinson & Young, 2002).

Two competitors can both compete and cooperate with each other, simultaneously this shows the meaning of the term “coopetition” (Bengtsson & Kock, 2000).

The two activities: cooperation and competition can be analyzed separately depending on the proximity to the customer and on the competitor's access to some resources. A company may cooperate with one competitor and compete with another, and thus taking part in different relationships with different members. These relationships are rather complex, as members are involved in a hostile relationship (competition) on one hand, and on the other, in a friendly relationship with the member with whom they share the same interests. These two logics must be properly managed so that a coopetitive relationship emerges (Bengtsson & Kock, 2000).

One side of a coopetitive relationship assumes that individuals behave according to their own interests, pursuing their own aims, ambitioning that their products differentiate and perform better than their competitor, so the existence of different self-interests will lead to conflicts with each other. The other side of the coopetitive relationship assumes that individuals behave in order to achieve common goals, seek to profit from their partner's competences, seek to reduce lead times and reduce costs of new product development. The reason why individuals pursue a win-win relationship abides in the social structure and not in the individuals' motives and interests. In this relationship, what really matters is the well-being of the competitors and of the relationship. It is the industry structure that force firms to compete with each other, but it is the social structure that explain why they cooperate with each other (Bengtsson & Kock, 2000).

Coopetition has been more frequent due to the increase of interdependence between global actors and the need for collective action, risk and knowledge sharing and strategic flexibility (Luo Y. , 2007).

*University-Industry Collaboration (UIC)*

Cooperation between universities and industry has seen its importance growing in the literature since 1990, first more related to medical research and now more used in social sciences and in the management field (Ankrah & Al-Tabbaa, 2015).

Universities and other higher education institutions are a relevant source of scientific knowledge; therefore, industry can have access to this knowledge by developing formal and informal relationships with those entities, and thus encourage innovation and production. Those relationships may be due to the founders' educational qualifications and to their links to those organizations (Westhead & Storey, 1995).

UIC has been generally considered an important source of innovation capacity for firms, as they use external networks to develop innovation and knowledge, to complement the traditional internal R&D department (Dess & Shaw, 2001). Although factors as capacity and resources, legal issues, and contractual mechanisms, management and organization issues, and others related to technology, politics, and others facilitate or inhibit the collaboration between universities and industries (Bruneel *et al.*, 2010), it is the managerial and organizational issues the success critical factors of the University-Industry relationship (Ankrah & Al-Tabbaa, 2015).

The motivations of both universities and industries to establish a collaborative relationship are necessity, reciprocity, efficiency, stability, legitimacy and asymmetry. This last motivation was found only in the side of the industry, once industry enjoys having the power to control its resources (Ankrah & Al-Tabbaa, 2015).

**A CONCEPTUAL FRAMEWORK**

The conceptual model comprehends the organization as the object of study, with three elements of observation. The first focuses on the CEO as an individual, like any other executive of a TMT, with different psychological characteristics, different age, education, functional background, and managerial tenure, and network of contacts. The second studies the organization with its culture, values, norms and artifacts. The third is dedicated to cooperation networks with firms providing complementary products or services – complementors, with firms offering similar products/services – competitors, and university-industry collaboration viewed as a mean of reducing R&D costs and of enhancing industry capacity of innovation.

By combining different theoretical approaches, some hypotheses of research emerge.

An organization is a result of people's behaviors, as people define the way an organization looks, feels, and behaves. Therefore, the characteristics of people "are the fundamental determinants of organizational behavior" (Schneider, 1987, p. 437).

Executives of an organization can have an impact within the organization by emphasizing certain values and creating norms for expected behaviors (Mumford, et al., 2002). In fact, by emphasizing certain values and by creating norms for expected behaviors, managers can build an organizational culture with a powerful influence on employee behavior. Values and norms can in turn manifest itself in artifacts (e.g., organizational rituals, language and stories, and physical configurations) and lead to desired or accepted behaviors.

*H1 – The Individual characteristics have an impact in the Organization Culture*

The Upper Echelons Theory (Hambrick & Mason, 1984) argue that both CEO's and TMT observable characteristics have an impact on the interactions of CEO's and TMT's with others within and external to the firm, producing effects on organization performance (Bromiley & Rau, 2016). So, it can be said that

*H1a) The CEO observable characteristics have an impact in the Organization*

Zhao and Seibert (2006) used the Big Five framework to assess to what extent entrepreneurs are different from managers in those personality 'traits'. Moreover, found that managers score higher on agreeableness and significantly lower than entrepreneurs on conscientiousness, openness to experience, and emotional stability. So, it can be said that

*H1b) The CEO psychological characteristics have an impact in the Organization*

The actions of individuals and groups can be facilitated by their direct and indirect connections to other actors in social networks. The main aspect of social capital is not about what you know, but about whom you know (Woolcock & Narayan, 2000).

Social networks influence the flow and the quality of the information, as people prefer to trust people they know instead of relying on impersonal sources, so social networks helps trust to emerge (Granovetter, 2005). In fact, it is through social relations that social capital provides information to facilitate the action (Coleman, 1988). Many business relationships are a result of the personal sociability of business managers, and this happens not only at the top of the firm but at all levels, business occurs (Granovetter, 1985). So, it can be said that

*H1c) The CEO social capital has an impact in the Organization*

Organizations are connected by networks of personal relations (Granovetter, 1985), so firms with top executives with a given set of characteristics and greater social capital will be preferred by partners to establish business relationships, and therefore cooperation networks. Still, if many business relationships are a result of the managers social capital (Granovetter, 2005) then it is expected that cooperation networks, are also a result of the executives' social capital. So, it can be said that

*H2) The CEO characteristics have an impact on the establishment and development of Cooperation Networks*

The reason why individuals pursue a win-win relationship abides in the social structure and not in the individuals motives and interests. It is the industry structure that forces firms to compete, but it is the social structure that explains why they cooperate with each other, even if they are competitors (Bengtsson & Kock, 2000). So, it can be said that

*H2a) The CEO social capital has an impact on the establishment and development of Cooperation Networks*

CEOs with a low score in Extraversion, being a cautious, introverted and quiet person, will have more difficulty in developing their social capital, and therefore business relationships, meaning cooperation networks. In the same way, an executive with low score in Agreeableness will be seen as not to be trusted, and will hardly be able to connect with other managers, as these may be reluctant to develop any kind of personal or business relationship. This may happen, because most of firms prefer to negotiate with individuals of known reputation to avoid risks, instead of relying on institutional arrangements (Granovetter, 1985). So, it can be said that

*H2b) The CEO psychological characteristics have an impact on the establishment and development of Cooperation Networks*

CEO heterogeneity in demographic features reveals a tendency to pursue alliance formation and therefore establish cooperation networks (Carpenter, et al., 2004). The more heterogeneous are the executives the more prepared they are to deal with the greater complex relationships, cooperation networks bring (Ferrier, 2001).

Education may also be crucial in establishing strong inter-organizational ties, as it implies membership in a given socioeconomic group (Hambrick & Mason, 1984). And, therefore access to a network of contacts, so it is probably, that educational background with what it implies is also important in the development of business networks, as the main issue of social capital, is not about what you know, but about whom you know (Woolcock & Narayan, 2000).

Decision maker's age is negatively related to firm global strategic position, the younger the manager the more likely he is to engage in collaboration networks and follow internationalization strategies (Carpenter & Fredrickson, 2001).

The effect of the executives' functional background and experience of the CEO is significantly related to the diversification strategy of a firm (Song, 1982). So, it can be said that

*H2c) The CEO observable characteristics have an impact on the establishment and development of Cooperation Networks*

Although organizational culture is a largely invisible social force, it is very powerful within organizations. For this reason, Hogan and Coote (2014, p. 1609) stated, "organizational culture is a powerful means to elicit desired organizational outcomes".

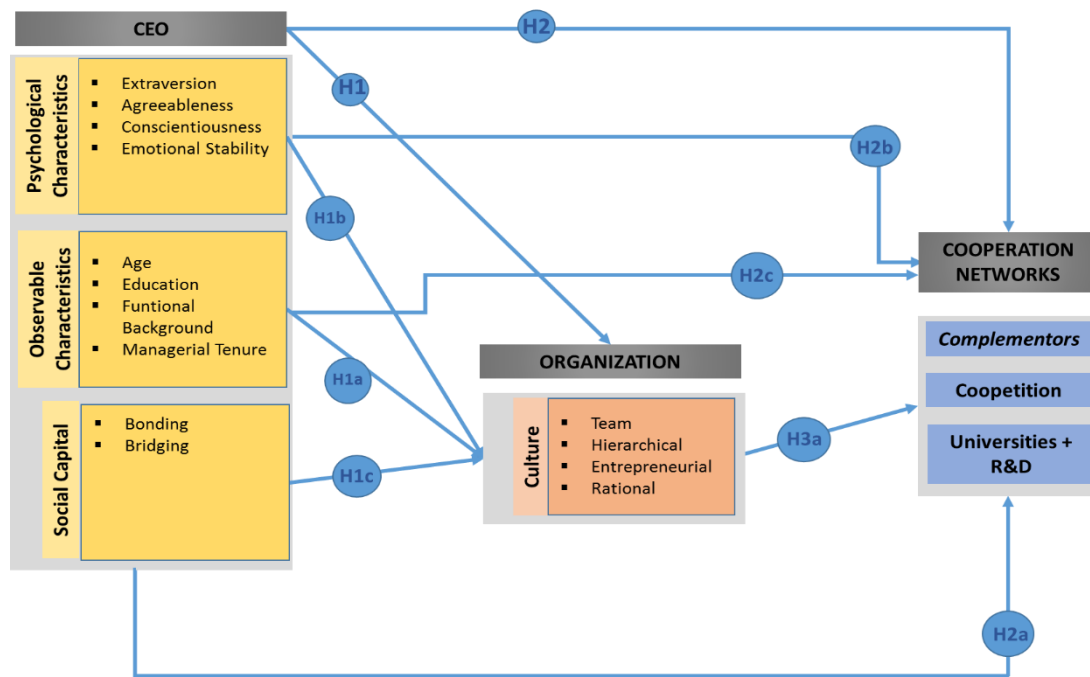


Figure 2. Conceptual framework – The Impact of CEO characteristics on organizational culture and in establishing and developing cooperation networks

Organizations with values revealing an external focus and emphasis on flexibility, called “Entrepreneurial Cultures” are usually considered open systems, favorable to creativity and innovation and risk takers (Kalliath, et al., 1999). So, it can be said that

*H3a – The Organizational culture has an impact in how the organization establishes and develops cooperation networks*

Organizational culture also influences the way employees relate to each other, and also how they look after new members, so it has been pointed out as an important barrier to the flow of new knowledge and innovations (Helfrich, et al., 2007).

By neglecting the connections to the stakeholders (employees included), the organization may be missing business opportunities related to innovation, creativity or efficiency and incur in additional costs (Fenwick, et al., 2009).

## CONTRIBUTIONS, LIMITATIONS AND ORIENTATIONS OF THE RESEARCH

Little research has been conducted on the study of psychological characteristics of top executives (Barsade *et al.*, 2000), so a contribution to knowledge of this research would be the collection of data regarding the influence of CEO psychological characteristics on organizational culture and firm behavior.



Major limitations of this work abide on the absence of empirical work, and of firm performance measures, to assess the financial impact of the CEO personality in the organization culture and on its ability to establish and develop cooperation networks. Other variables, like the size of the firm and the industry should also be taken into account, once they might influence the results, and its interpretation. Therefore, for future research the conceptual model presented should have an empirical testing, and also the relationships between the constructs and the research propositions should be discussed and tested. Different contexts (e.g. different industries, regions, countries), might also be used as a basis to discuss potential relationships.

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## EFFECTIVENESS OF WEBSITE LOCALIZATION: PRACTICES FROM DIFFERENT CULTURES IN READY-TO-WEAR SECTOR

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### ABSTRACT

Despite the fact that recently the world has become a global village, localization still keeps its importance when it comes to creating websites. It is important to have an effective localization, in order to have an effective website. Cultural distance might also have a role in the localization level of websites from different cultures. One of the most important indicators of an effective website would be the satisfaction consumers get from that website. Therefore; the present study aims to explain the effectiveness of websites through localization with satisfaction elements taking into consideration the effect of cultural distance in ready-to-wear sector. The study is composed of three phases: conducting a cluster analysis to find out cultural differences and to select website brands; evaluation of localization levels by a jury of academicians using KJ method and conducting an online survey to determine the effectiveness of the selected websites.

**Keywords:** *Localization, Cultural distance, Satisfaction, Websites, Ready-to-wear sector, Hofstede, Effectiveness*

### INTRODUCTION

The Internet has changed the way millions communicate, conduct business and manage their daily lives. Websites are the new communication medium for companies to reach out their consumers not only nationally but also internationally. However, this requires companies to consider cultural differences while they are designing their websites and reaching their international customers (Sun, 2001; Reinecke and Bernstein, 2013).

It is assumed that companies from different cultures would behave differently when creating a website for a country from a different culture (Zhang, 2015). Global websites are the gateways of the companies of future to reach out consumers with different cultural backgrounds where the right strategy to design a website is crucial especially in the ready-to-wear sector, where online shopping started gaining an important percentage of the total sales. Trust, site quality and positive affect (i.e. satisfaction) were found to be more significant for selling high-touch goods such as clothing (Lynch et al., 2001). Shopping

sites were included under hybrid website category implying that these websites could be providing informational content as well as offering some hedonic benefits such as satisfaction for their consumers (Valacich et al., 2007). There is no more either standardization or localization alternative in every aspect of a website design. There are many parts of a marketing strategy where standardization would be beneficial for a company to employ while there are some aspects of the strategy that would lead to failure if "local" tastes of the consumers are not taken into consideration (Quelch and Hoff, 1986:59).

The aim of this study is to analyze whether different levels of localization versus standardization would create a difference in the satisfaction the consumers get from the website. Since, cultural distances between the headquarter of the firm and the targeted country can have an impact on this relationship, the cultural distances are also considered. Turkey is chosen as the country of reference since she is an emerging country with a high population where the young people have a larger percentage. This brings a more dynamic market with a growing interest in technology thus online shopping. According to the information of an analysis by eMarketer (2016:9), Turkey is expected to see a rapid growth in the number of internet users as the percentage of residents who go online will jump from 54.2% in 2015 to 65.2% in 2019. The results are expected to shed a light on the differences of the effectiveness of global ready-to-wear brand websites in Turkey.

## LITERATURE REVIEW

### *Localization*

Standardization strategy can be stated as "marketing activities coordinated and integrated across multiple country markets" (Johansson, 2009:14) whereas localization can be defined as "the process of adapting a product and service to a particular language, culture, and desired local look-and-feel" (Cyr and Trevor-Smith, 2004:3).

Even though websites might be reached globally, their content is still expected to vary from culture to culture. Luna et al (2002) aimed to provide a cognitive framework to investigate the effect of the manifestations of culture, including language, on website effectiveness. They carried out three experiments with two Spanish and one U.S. sample, all of which included Spanish-English bilingual participants. The results suggested that the congruity of a site with a visitor's culture is a key site content characteristic that affects a visitor's likelihood of an optimal navigation experience or flow in a cross-cultural context. Even people with an advanced knowledge of English as a second language feel more comfortable searching in their first language.

Designing websites that are appropriate for audiences with different cultural backgrounds has never been an easy task. The designers need to take into consideration various aspects such as pictures, graphics, currency and measurement units while forming a website for a different country. Website localization is more than the mere translation of words into a different language. It is the adaptation of the contents of a website linguistically as well as functionally and culturally to be acceptable for a certain target audience (Cyr and Trevor-Smith, 2004).

### *Effectiveness and Satisfaction*

Satisfaction is an important factor when evaluating the effectiveness of websites (López and Ruiz, 2011). Consumers visit websites for various purposes. They do not only wish to gather information but also to have fun while surfing the internet. When designing websites, companies must take into account the expectations of their consumers. Effectiveness of websites is closely related to the satisfaction the consumers would attain from a website. More satisfaction leads to more customer loyalty resulting in effective websites (Van Dolen et al., 2007). This study aims to depict the differences of effective localization practices; therefore satisfaction evaluations are taken into consideration to explore its relation with localization levels of websites. It is assumed that as the localization level increases, satisfaction of customers from the website would increase; therefore it is hypothesized that:

H<sub>1</sub>: Satisfaction from the websites will differ with respect to localization levels of websites.

Satisfaction evaluations are evaluated with three dimensions (Steenkamp and Geysken, 2006); therefore the following sub-hypotheses are tested:

H<sub>1a</sub>: Pleasure acquired from the websites will differ with respect to localization level of websites.

H<sub>1b</sub>: Arousal acquired from the websites will differ with respect to localization level of websites.

H<sub>1c</sub>: Accessibility to the websites will differ with respect to localization level of websites.

### *Cultural Distance, Level of Localization and Effectiveness*

Cultural distance of the country of the global company to Turkey is also taken into consideration. Closer cultures would be expected to have similar tastes (Drogendijk and Slangen, 2006), therefore when a global brand enters a market from a closer culture, not much localization should be required for

successful results in that market. Lower level of localization would be sufficient, therefore it is hypothesized that:

H<sub>2</sub>: The closer the cultural distance of the ready-to-wear brand, the lower the level of localization will be necessary.

It is assumed that a ready-to-wear brand from a closer culture would have similar tastes, therefore it would cover the expectations of consumers from a similar culture in designing websites implying for a higher effectiveness, therefore it is hypothesized that:

H<sub>3</sub>: The closer the cultural distance of the company to the country where its website operates, the higher the effectiveness of websites.

It is assumed that localization of the websites influences the effectiveness of websites, however cultural distance would as well have an effect on the results. Therefore, it is hypothesized that:

H<sub>4</sub>: Localization level of websites influences the satisfaction acquired from websites regarding cultural distance.

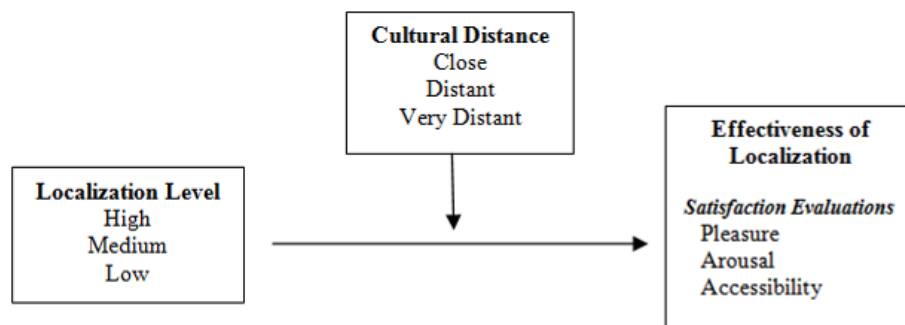


Figure 1. *Research model.*

## RESEARCH DESIGN

The study was designed in three phases. In the first phase, the aim was to determine the companies whose websites were to be evaluated. For this purpose, since cultural distances were believed to affect the need for localization; the countries were categorized as distant, very distant and close to Turkey in terms of culture. The cultural differences of the countries were specified by using Hofstede's cultural dimensions since this is the most widely used and accepted scale in various social science studies (Soares et al., 2007; Rinuastuti et al., 2014). Various studies were done using Hofstede dimensions. However, none of the previous studies included all six dimensions at the same time. Only some dimensions of Hofstede (1980) were included in most of the studies in the marketing literature (Han

and Shavitt, 1994; Cutler, Erdem and Javalgi, 1997; Zandpour et al., 1994). Some studies (Zandpour et al., 1994; Yalcin et al., 2011; Tigre Moura et al., 2015) used dimensions from Hofstede (1980, 1991) together with dimensions from Hall (1976, 1983).

In the cluster analysis, the country scores of Hofstede (Hofstede et al., 2010) dimensions were used as clustering variables using the dimension data matrix downloaded from Geert Hofstede's website (<http://www.geerthofstede.com/dimension-data-matrix>). Fifteen clusters were obtained (Table 1) and named following the evaluation of the proximity matrix and the dendrogram (the details are not included due to page limitations).

Cluster Number	Suggested Name*	Countries Included in the Cluster
1	Anglo	Australia, USA, Canada, New Zealand, Ireland, Great Britain
2	Nordic	Denmark, Sweden, Finland, Norway, Netherlands
3	Latin African	Mexico, Venezuela, Colombia, Africa West, Trinidad and Tobago
4	Baltic	Estonia, Lithuania, Latvia
5	Germanic	Germany, Switzerland, Luxembourg, Austria
6	East European and Mediterranean	Belgium, France, Hungary, Italy, Czech Republic, Poland
7	Far Eastern	Malaysia, Philippines, Indonesia, Vietnam, Hong Kong, India, China, Singapore
8	African Arabic	Africa East, Thailand, Arab countries, Morocco, Iran
9	Latin Undeveloped	Chile, El Salvador
10	Latin Europe	Portugal, Uruguay, Peru, Slovenia
11	Latin American and Mediterranean	Brazil, Turkey, Spain, Malta, Greece, Argentina,
12	Far Eastern Developed	South Korea, Taiwan
13	East Europe Far East	Romania, Serbia, Bulgaria, Croatia, Russia, Bangladesh, Pakistan
14	Japan	Japan
15	Slovak Republic	Slovak Republic

\*The names of the clusters are inspired and adapted from Hofstede (1980, 2001) and Ronen and Shenkar (1985, 2013).

Table 1. *DETAILS OF FIFTEEN CLUSTERS FORMED ACCORDING TO HOFSTEDÉ'S SIX CULTURAL DIMENSIONS*

In the second phase, companies having websites for Turkey from different cultural clusters were chosen. Following extensive research on the internet looking for websites in ready-to-wear sector for global brands that are active in Turkey, it was determined that the examples of global ready-to-wear brand websites were limited to countries from five different clusters. Therefore; website examples from

these clusters were considered for evaluation. A jury of academicians evaluated the websites in terms of their localization level according to those web design elements including language, symbols, navigation, multimedia, layout, color, content and structure, pictures and graphics as proposed by Cyr and Trevor-Smith (2004) using KJ (Kawakita-Jiro) method, a popular method to group items according to similarity. The cultural distances were also considered while selecting the websites. Mango was from a culture closest to Turkish culture while Gap was from a very distant culture. C&A brand was from a distant culture. The proximity matrix and the dendrogram obtained with the cluster analysis proved the distances. The aim of this phase was to eliminate the companies having similar level of localization. The number of websites was decreased to three regarding the evaluation of the jury of academicians and it was decided to include the websites of C&A (low-level localization), Mango (medium-level localization) and Gap (high-level localization).

The third and the final phase consisted of the evaluation of the effectiveness of the selected websites with different localization levels with respect to web design satisfaction. Steenkamp and Geysken's (2006) satisfaction measurement items (pleasure, arousal and accessibility) were used.

#### *Data Collection and Sampling*

The Internet provides numerous advantages and opportunities to conduct survey research more efficiently. Internet-based surveys have many advantages such as low research costs, taking shorter time to collect data and reaching potential respondents in wider areas (Zhang, 1999). In this study, it was preferred to distribute the survey via internet to reach the targeted sample that is sufficiently capable of using the Internet for various purposes. Therefore the questionnaire was distributed via Facebook, e-mail and other internet platforms using snowball method of convenience sampling which is a non-probabilistic sampling method. The questionnaire was sent to friends, acquaintances, classmates, and relatives via e-mail or Facebook who distributed the questionnaire further via Facebook or e-mail, the link of the questionnaire was posted in Facebook and LinkedIn accounts. Survey monkey was used to collect the data. The questionnaire was open for access from 18th of June until 18th of August, 2014. 498 people viewed the questionnaire, however 293 completed questionnaires were obtained that are found appropriate for analysis.

The sample composed of rather highly educated people (54,9% with an undergraduate degree) most of which were from the cities Istanbul, Aydın and Izmir and knew English (89,4%) in advanced level (64,1%). Nearly three fourths was between 20-39 years of age. More than half of the sample (62,1%) was female and nearly half (45,4%) was married with children and private sector employees (45,7%) Most of the respondents have been using the internet for 9 years or more (70%) mostly with a frequency



of 1-4 hours per day (55%). Therefore, the sample is experienced with internet usage but the time they spend on the internet is rather low. The respondents stated that they were using the internet mostly for communication (90%). Shopping was indicated as a reason by more than half of the respondents (52,9%).

#### *Data Analysis*

Cluster analysis was used in the first phase of the study to categorize and find out similar country groups with respect to the country scores of Hofstede's cultural dimensions. KJ method is used in the second phase. In the third phase, reliability tests, frequency distribution and one-way Anova tests are used. To conduct all these analyses, SPSS Statistics 17.0 Software program is used.

#### *Reliability Analyses*

The reliability scores were quite high ranging from 0.88 to 0.91 for each of the three websites for the first two dimensions of satisfaction, i.e. for pleasure and arousal dimensions, and acceptable for the third dimension, i.e. accessibility dimension, with scores ranging from 0.64 to 0.77 for each of the websites. Therefore; the satisfaction measurement items adapted from Steenkamp and Geysken (2006) (pleasure, arousal and accessibility) were used in the study.

## **FINDINGS**

#### *Effectiveness of Websites with Different Levels of Localization Regarding Satisfaction Evaluations*

The mean scores of the medium-localized website are the highest for all three dimensions of satisfaction, followed by high-localized and low-localized websites, respectively. The Anova test shows that there is a statistically significant difference in at least one of the three ready-to-wear brand websites in terms of all three dimensions of satisfaction with respect to localization levels. Therefore, H1<sub>a</sub>, H1<sub>b</sub>, H1<sub>c</sub> and H1 are supported (Table 2).

Bonferroni and Tukey tests showed significant differences between the pleasure acquired from all three websites at different localization levels (Tukey<sub>low-high, low-medium</sub>: 0,000, Bf<sub>low-high, low-medium</sub>: 0,000; Tukey<sub>high-medium</sub>: 0,039, Bf<sub>high-medium</sub>: 0,044).

In the post-hoc test, Tamhane was applied for arousal dimension. All websites differ significantly with respect to the arousal they create. The most significant difference is created between low-medium localized websites ( $p=0,000$ ) followed by low-high localized ( $p=0,017$ ) websites. But there is no significant difference between medium-high localized websites ( $p=0,096$ ) with respect to arousal. So, low localized website is the one that creates significant difference regarding arousal.

		Mean scores s.d.	$\pm$ F	Sig.
S1_PLEASURE	high-localized	3.4505	28,408	,000
	medium-localized	3.6451		
	low-localized	3.0563		
S1_AROUSAL	high-localized	3.0546	11,899	,000
	medium-localized	3.2355		
	low-localized	2.8328		
S1_ACCESSIBILITY	high-localized	3.5205	11,152	,000
	medium-localized	3.5614		
	low-localized	3.2611		
OVERALL SATISFACTION	high-localized	3.3417	25,327	,000
	medium-localized	3.4807		
	low-localized	3.0500		

Table 2. ANOVA FOR SATISFACTION DIMENSIONS REGARDING DIFFERENT LOCALIZATION LEVEL OF WEBSITES

In the post-hoc test, Bonferroni and Tukey tests were applied for accessibility dimension. In terms of accessibility, the most significant difference is observed between low-medium localized websites (Tuk: 0,000, Bf: 0,000) followed by low-high localized website (Tuk: 0,001, Bf: 0,001). However, no significant difference is found between medium-high localized websites (Tuk: 0,823, Bf: 1,000) with respect to accessibility. So, low localized website is the one that creates significant difference regarding accessibility.

In the post-hoc test, Bonferroni, Tukey and Tamhane tests were applied for overall satisfaction score. In terms of satisfaction, low-localized website is significantly

different from both medium-localized website and high-localized website (Tukey: 0,000, Bf: 0,000 and Tamhane: 0,000). Medium-localized and high-localized websites also differ (Tukey: 0,064, Bf: 0,074 and Tamhane: 0,070), however the significance level is lower than that of low-medium and low-high localized websites.

As a conclusion, medium-localized and high-localized websites do not have a huge difference in terms of satisfaction, whereas low-localized website is very different from both medium and high-localized websites. Hence, satisfaction score for low-localized website creates the difference.

#### *Relationship between the Level of Localization and Cultural Distance*

Closer cultures would be expected to have similar tastes, therefore when a global brand enters a market from a closer culture, not much localization should be required for successful results in that market. Lower level of localization would be sufficient, therefore it is hypothesized that:

H<sub>2</sub>: The closer the cultural distance of the ready-to-wear brand, the lower the level of localization will be necessary.

		Cultural Distance	Localization Level of Ready-to-Wear Brand Website
Cultural Distance	Pearson Correlation	1	-,500**
	Sig. (2-tailed)		,000
	N	879	879
Localization Level of Ready-to-Wear Brand Website	Pearson Correlation	-,500**	1
	Sig. (2-tailed)	,000	
	N	879	879

\*\*. Correlation is significant at the 0.01 level (2-tailed).

Table 3. *Partial Correlations between Localization Level and Cultural Distance*

Relationship between localization and cultural distance was tested. Meaningful rather significant relationships were found between the localization level of websites and cultural distance (Table 3). There is a negative relation between cultural distance and localization. H<sub>2</sub> was only partly supported. The website from very distant culture was assessed to be highly-localized which would be anticipated. The website from close culture was assessed to be medium-localized. The website from distant culture was assessed to be low-localized which would be expected to be medium-localized.

The unexpected results of this analysis could be explained as follows. The website from very distant culture (Gap) had a highly-localized website whereas the website from a close culture (Mango) had a medium localization level instead of low localization level. Their aim could be to use the advantage of having a close culture and further enhance their website by localizing more than expected. In contrary to these, the website from distant culture (C&A) had a low localization instead of a medium-localization level. This could imply that C&A does not take the virtual market in Turkey very seriously; therefore they do not have online sales. Maybe because of this, their website is evaluated as not having any localization at all.

#### *Effectiveness of Websites with Different Cultural Distance Regarding Satisfaction Evaluations*

It is assumed that a ready-to-wear brand from a closer culture would have similar tastes, therefore it would cover the expectations of consumers from a similar culture in designing websites implying for a higher satisfaction, therefore it is hypothesized that:

H<sub>3</sub>: The closer the cultural distance of the company to the country where its website operates, the higher the effectiveness of websites.

The influence of cultural distance variables on the satisfaction dimensions was tested. First of all, Anova test was carried out individually. Significant differences existed for satisfaction evaluations (Table 4). H<sub>3</sub> is supported.

	Sum of Squares	Df	Mean Square	F	Sig.
Satisfaction Mean Between Groups	28,318	2	14,159	25,327	,000
Within Groups	489,727	876	,559		
Total	518,045	878			

Table 4. *Anova for Satisfaction dimensions*

In the post-hoc test, Bonferroni, Tukey and Tamhane tests were applied for cultural distance versus satisfaction evaluations. In terms of satisfaction, the website from distant culture is significantly different from both websites (Tukey: 0,000, Bf: 0,000 and Tamhane: 0,000). whereas the websites from very distant and close cultures do not have a huge difference (Satisfaction evaluations: Tukey: 0,064, Bf: 0,074 and Tamhane: 0,070). Hence, the website from distant culture creates the difference.

#### *Relationship between Satisfaction and Localization with Cultural Distance as Control Variable*

It is assumed that localization influences the effectiveness of websites, however cultural distance would as well have an effect on the results. Therefore, it was hypothesized that:

H<sub>4</sub>: Localization level of websites influences the satisfaction acquired from websites regarding cultural distance.

		Satisfaction Mean	Zscore: Localization Level of Ready-to-Wear Brand Website
Satisfaction Mean	Pearson Correlation	1	,155**
	Sig. (2-tailed)		,000
	N	879	879
Zscore: Localization Level of Ready-to-Wear Brand Website	Pearson Correlation	,155**	1
	Sig. (2-tailed)	,000	
	N	879	879

\*\* . Correlation is significant at the 0.01 level (2-tailed).

Table 5. *Partial Correlations between Satisfaction and Localization*

Relationship between satisfaction and localization was tested using cultural distance as the control variable. Weak but significant relationships were found (Table 5). There is a weak positive relation between satisfaction and localization. When cultural distance is added as a control variable, the relationship is again weak and positive; however, the correlation increases from 0,155 to 0,222 (Table 6). This means that when the cultural distance is less (closer distance), the influence of localization level on satisfaction evaluations increases. It can be confirmed that the localization level of websites influences the satisfaction acquired from websites regarding cultural distance. Therefore, H<sub>4</sub> is supported.

Control Variables			Satisfaction Mean	Localization Level of Ready-to-Wear Brand Website
Cultural Distance	Satisfaction Mean	Correlation	,100	,222
		Significance (2-tailed)	,000	,000
		df	876	876
	Localization Level of Ready-to-Wear Brand Website	Correlation	,222	,100
		Significance (2-tailed)	,000	,000
		df	876	876

Table 6. *Partial Correlations between Satisfaction and Localization with Cultural Distance as the Control Variable*

## CONCLUSION AND RECOMMENDATIONS

Despite the fact that recently the world has become a global village, localization still keeps its importance when it comes to creating websites. It is important to have an effective localization, in order to have an effective website.

The websites of those global brands that operate in Turkey according to localization level (high – medium – low) were analyzed in terms of satisfaction to depict whether localization creates any difference in the satisfaction the consumers get from the website. The study was designed to evaluate the effectiveness of the selected websites with different localization levels with respect to web design satisfaction taking into consideration the cultural distances as control variable. The assumption that localization level would affect the satisfaction evaluations of ready-to-wear websites was supported in all dimensions of satisfaction. It seems the low-localized (C&A) website creates the difference for satisfaction evaluations. The medium-localized (Mango) website has the highest mean scores for satisfaction evaluations.

The differences between satisfaction evaluations for websites with different localization levels were depicted clearly in the dimensions of satisfaction. The differences in pleasure acquired from the websites existed not only between the low-localized website and the others but among each website, which has strong implications that localization level has a significant effect for the pleasure acquired from websites. In terms of arousal and accessibility, significant differences existed between all three websites; however it was interesting to find results supporting even more significant differences between the low-localized and medium-localized websites. It might be concluded that localization level creates differences in the satisfaction evaluations in the websites from ready-to-wear sector, however further examples need to be evaluated to explain and strengthen this assumption.

Furthermore the effect of cultural distance was considered. Countries from different clusters were considered being more distant to each other therefore requiring more localization to have higher satisfaction levels. The selected websites were classified as close, distant and very distant taking into consideration the gap between cultures of the brands. It was expected that the brand from a closer culture would not be required to realize a high level of localization to be successful in satisfaction evaluations. However the brand from the closest culture (i.e. Mango) had a medium level of localization instead of a low level as expected. The brand from very distant culture (i.e. Gap) had the highest level of localization, which was expected. The brand from distant culture (i.e. C&A) had the lowest level of localization while it was expected that it would require at least a medium level of localization to have better results. The results implied that the website from a closer culture would have the highest results even with a medium level of localization which showed the influence of cultural

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distance as well. The website from the very distant culture also had high results as they did a high level of localization, however, the results stayed as second best level due to the huge cultural gap. The website from the distant culture had the lowest results with the lowest level of localization, which implies that the amount of localization created the effectiveness of website which was measured through satisfaction evaluations.

Only those companies that think global but act local in the necessary parts of their strategies will become the companies of the future. It is important to know what changes are necessary to create a website that would suit the website for each culture. A company's website is basically the image of itself; therefore, presenting a poorly constructed website would not only hurt profits but also ruin the image of a company for years to come. Hence, international and global companies should keep this fact in mind while creating their websites.

One of the most important contributions of this study is to take into consideration all six dimensions of Hofstede while evaluating the localization level of websites. The evaluations of localization in the literature mostly included content analyses of websites from different countries and different sectors (Han and Shavitt, 1994; Cutler et al., 1997; Yalcin et al., 2011; Tigre Moula et al., 2015; Mele et al., 2016). Yeygel Çakır and Temel Eğinli (2010) analyzed the localization level of websites operating in Turkey from different sectors using the existing framework of Singh et al. (2005:144-146) and emphasized that cultural differences are important for the design of websites. However, the websites they considered were randomly selected from various sectors. Different design elements could be more important for different sectors. This issue may make it harder to compare localization levels of these websites. The contribution of this study is to focus on only one sector, therefore eliminate the influence of product and sectoral differences and make the effect of localization level to be observed more clearly.

The effectiveness of localization is measured via satisfaction evaluations in this study trying to come to a conclusion how the effectiveness could be created. It was important to find out the cultural distance has some effect; however, it was also clear that the level of localization is a powerful tool to reach out to the consumers in the most appropriate way.

It would be interesting to apply this study using an experimental design through creating non-existing brands. This would provide a more objective evaluation possibility, as the consumers would not have any subjectivity created by familiarity to a certain brand. The best features of different ready-to-wear brands could be taken into consideration to create a high-localized website and tested in different countries analyzing the eyeballs of consumers while evaluating the websites for online shopping in a

laboratory environment. This would offer the chance to compare and contrast results for different markets in different countries.

The ready-to-wear sector was considered for analyses, as this sector was one of the most quickly expanding sectors for online commerce. Different sectors might be considered in future studies and comparisons could be made for different sectors as well. The level of localization and cultural distance relation might be affected by the fact that one of the websites (C&A) did not have online sales while the other two websites did. Therefore, in future studies examples with online sales could be selected to test further results.

The respondents in this study were mostly highly-educated and knew at least one foreign language. This would mean they are also familiar with different cultures. This fact could have an influence in the results. The study could be applied to respondents from different backgrounds to compare and contrast the results. The respondents stated that they are experienced internet users most of which have shopped online at least once. It was not in the questionnaire, however whether they have shopped from the websites in the analysis or whether they were familiar with the tested brands. It would be interesting to analyze the results of the questionnaire if the questionnaire was applied to the consumers of the website after they have shopped online in that website. A mixture of methods was used in this study including cluster analysis, KJ method and Anova tests. It would be interesting to analyze using qualitative methods analyzing the same websites with experts in a longer time span in more detail and reaching results.

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## YOUTH IN INDIA: DEMOGRAPHIC DIVIDEND OR DEMOGRAPHIC DISASTER

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### ABSTRACT

This paper provides vital insights into the challenges facing youth in terms of employment opportunities in India (Mitra and Verick, 2013). The main objective of this paper is to encourage discussion and further research for the promotion of decent work with respect to youth employment in Asia and the Pacific.

According to ILO's Global Trends Report 2012 on Youth, almost 75 million young people are unemployed across the globe, which represents an increase of more than 4 million since 2007 (ILO, 2012). These challenges are noticeable in India, which has the largest youth population in the world with around 66 per cent of the total population under the age of 35 (United Nations, 2003). In this environment, much is often said about a 'demographic dividend' (Ghosh et al.2010). However, not being able to provide right match of employment opportunities for this lot of young people as they penetrate the labour market risks a 'demographic disaster' (Verick, 2009).

With this regard, governments are precisely concerned about increasing levels of youth unemployment and underemployment because of not only the direct economic costs, but also due to the social impact of joblessness as manifested by increased mental health problems ,violence, drug taking and other social outcomes (Bell and Blanchflower, 2009).

Against these conditions, this paper addresses the nature of employment profile of youth in India with focus on the suggestions for challenges with respect to youth unemployment in India. The research methodology used is qualitative with major focus on secondary data.

**Keywords:** *Youth, Employment, Unemployment, Underemployment, Social impact, Challenges, Demographic Dividend, Demographic disaster, Population, India.*

### INTRODUCTION

The youth population in any country is dynamic and vital for its long run development. The hidden power and demographic shift of the Indian youth population can improve our economy. In 2014, the

Government of India devised a National Youth Policy covering eleven priority areas—Education, Employment and Skill Development, Entrepreneurship, Health and Healthy Lifestyle, Sports, Promotion of Social Values, Community Engagement, Participation in Politics and Governance, Youth Engagement, Inclusion, and Social Justice—which provides youth a strong road map for realizing the projected goals throughout the consecutive 5 years with an appropriate framework. National Youth Policy (2014) aims to empower Indian youth to utilize their full potential. In accordance to this policy, youth in the age group, 15–29 years includes 27.5 per cent of the population. This important section of population can increase its labour participation and productivity for betterment of the economy. It is predicted to contribute about 34 per cent of the Gross National Income (National Youth Policy 2014).

The Census of India (2011) has unconfined a number of indicators on youth including other age groups, literacy, work status, total population and age wise population. Some vital socioeconomic and demographic indicators are to be released by the Census, which will facilitate researchers and academicians to explore youth development in detail for designing national plans and policies. Over consecutive five to six years the average age in China and the US would be 37, Western Europe—45, and in Japan it would be 48. In this scenario of demographic profile, India's average age would reflect a young 29 years. This demographic dividend could even facilitate the GDP of the country add two per cent each year.

Moreover, a considerable total (25 %) of the worldwide increase of the working age population of 15–64 years until 2040 is estimated to be witnessed in India. At present, more than half of India's population is under the age of 25, with 66 percent of the population under 35.

However it's vital to grasp that there will not be any dividend without investment, either in cash or kind. So time has come to think "What India has invested in youth? It doesn't follow that simply because India has large lot of young population there will be an automatic dividend. There is already so much unemployment; the young become a part of illegal activities as they cannot get jobs. They will become more violent. The main objective of this paper is to stimulate discussion and further research with reference to a crucial question "Whether greater percentage of young population in India would lead to encashing on demographic dividend or prove to be a demographic disaster?"

Against these conditions, this paper addresses the nature of development and employment profile of youth in India with focus on the suggestions for challenges with relevance to youth unemployment in India. The research methodology used is qualitative with major focus on secondary data.

## BACKGROUND OF THE STUDY

### *Global Scenario with respect to youth employment*

Worldwide, the ILO predicts that the amount of jobless youth is on the increase once more since 2011, after declining somewhat from the peak it reached at the height of the worldwide monetary crisis. It is predicted to reach 73.4 million young people by 2013 (International Labor Organization 2012). The worldwide youth unemployment rate has also been increasing since 2011; it is currently predicted at 12.6 percent and is projected to rise to 12.8 percent by 2018. In contrast, the worldwide adult unemployment rate, while also increasing slightly, is much lower at 4.6 percent in 2013 (ILO 2012). Whereas we attempt to take a worldwide viewpoint on youth employment challenges, our focus in this paper is on the developing country India. This is the country where the great majority of youth in the globe currently reside and where youth employment challenges are presumably to be related with the demographic challenges posed by growing youth populations in upcoming decades.

### *Indian scenario with respect to youth employment*

India has one of the highest adolescent (253 million) and youth populations in the globe. The Census of India (2011) has highlighted the profile and status of the adolescent and youth population, which comprises a vital segment of the total population of India. Socio-political, economic and demographic developments rely on them. The transition from education and training to economic activity marks a crucial phase in the lives of youth, who are the operative workforce of the country. The high level of unemployment among youth due to lack of skills and poverty is a long term challenge for India.

In 2010, it was projected that the population of the world was 6.91 billion and that adolescent population (10–19 years) constituted 1.19 billion and youth (15–24 years) 1.22 billion, which together accounted for 26.3 per cent of the total population of the world (World Population Prospects: the 2012 Revision, June 2013). In India, the adolescent population is 253 million and the youth population is 231.9 million, which comprise 20.9 per cent and 19.2 per cent of the total population respectively and both adolescent and youth population comprise 40.1 per cent of the total population of India (Census of India 2011). The youth population of India is so large that it is equivalent to the total population of eighteen countries in western Asia in line with United Nations estimates (World Population Prospects: The 2012 Revision 2013).

Youth is defined as those persons in the age group 15–24 years by the United Nations, though the age range for youth may vary in different countries due to different environments and needs of youth. During this transitional phase, physical, educational, psychological, social and economic changes occur in their lives. The India National Youth Policy (NYP) covers all youth in the age group 13–35 years, which is divided into two groups, that is, 13–19 years and 20–35 years (National Youth Policy 2003). The recent National Youth Policy has defined youth as those in the age group 15–29 years, who

comprise 27.5 per cent of the population. Youth is a more dynamic segment than a fixed age-group. 'Youth' is commonly indicated as a person between the age where she/he departs from compulsory education, and the age at which she/he finds her/his first employment (National Youth Policy 2014) and this paper will consider this definition to define youth.

Every year, the Government of India assigned Rs. 2710/-per youth per annum for development in terms of employment, appropriate education, skill development and awareness about health (Union Budget, 2011–2012). State governments, institutions, other stakeholders and Non-Governmental Organizations (NGOs) additionally assisted the development of youth, towards making them a productive workforce.

Various analyses have shown how socioeconomic factors determine the youth development pattern within the Indian context. There is proof that the young (16–24 years) are particularly more prone towards the negative effects of recession, which create a spell of unemployment (Bell and Blanchflower 2010). Global recession creates a hefty volume of temporary employment among them (O'Higgins and Niall' 2012). Low literacy rate, poverty and health problems among youth are obstacles for the development of youth in India (Dreze et al. 2011).

## RESEARCH METHODOLOGY

### *Research Objectives and Methodology*

The broad objective of this research paper is to answer an important question "Whether the increasing population of youth in India will lead to be a demographic dividend or demographic disaster?" The specific objectives are:

1. To examine the nature of youth development and employment (appropriate education, skill development and awareness about health).
2. To suggest recommendations for challenges with respect to youth unemployment in India.

The research methodology used is qualitative with major focus on secondary data collected from various published and unpublished electronic and paper sources like international and national journals, government policies, reports, labor laws, acts, reforms, discussion and working papers, newspaper, etc.

## FINDINGS AND DISCUSSIONS

### *Nature of youth employment*

Current Population of India as of 2013 was 1.27 billion, according to, the world population statistics. India had a population of 1.12 billion (as per census estimates in 2010). In 1995 - the population was 0.95 billion, which is expected to reach 1.8 billion by 2050, overtaking the Chinese population.

Incidentally nearly 50% of these, are below 25 years of age, and less than 10% are above 65 (Ministry of Finance 2007-8). Consequently India has the world's second largest working class and a dynamic labour force comprising 509.3 million people, 60% of whom are employed in agriculture and related industries, 28% in services and related industries and 12% in manufacturing. These are the ones who contribute to the growing GDP and the economy prospers due to the contribution of this labour force. This concept was coined as "demographic dividend" by Rao and Verghese (2009), who believe that HRM in India can exploit the demographic dividend. Population projections also indicate that India will continue to have a larger share of working population for a sustained two to three decades, further boosting the growth of the economy (Manorama Yearbook 2008). In addition, with more people shifting from agriculture to the manufacturing and services sectors, and migration from villages to towns continuing to rise, more and more workers are expected to join the growing service sector and contribute to the growth spiral (Rao and Verghese, 2009).

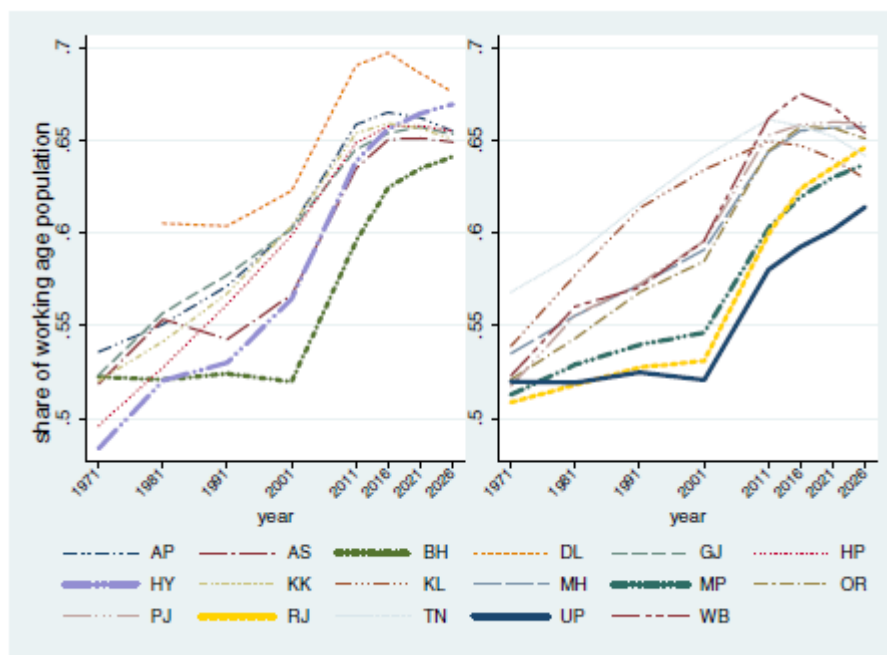


Figure 1: STATE WISE SHARE OF WORKING POPULATION IN INDIA

Source : Registrar General of India

Figure 1 shows the share of the working-age population in total population for 17 major Indian states. A few things stand out in relation to the differences in the evolution of the age structure across states. First, the share of the working-age population, varies across states. It was 64 per cent in Kerala and Tamil Nadu in 2001, and only 52 per cent in Bihar and Uttar Pradesh in 2001.

Second, over the 30-year period from 1971 to 2001, the four southern states of Andhra Pradesh, Karnataka, Kerala, and Tamil Nadu saw an increase in the share of the working age population by 6.7, 8.4, 9.5, and 7.3 percentage points, respectively. This is a reflection of the decline in the share of the dependent age groups (0–14 and 59-plus). Though not shown here, this change is accompanied by a decline in fertility rates, birth and growth rates, and an increase in life expectancy in these states. The other states that saw an increase in the share of the working-age population are Gujarat, Haryana, Himachal Pradesh, Maharashtra, Orissa, Punjab, and West Bengal. At the same time, the above mentioned states saw a smaller increase in the share of the working-age population states, which together account for 40 per cent of India's population, are projected to contribute 52.5 per cent of the increase in India's total population, and 58 per cent of the increase in India's working-age population. These four states are the slowest in their pace of transition to low birth rates and low death rates. Using data for 1971–2001, we have shown that the states with a higher growth in the share of the working-age population tend to grow faster.

In order to reap the “demographic dividend”, state policies with respect to education, public health and skill development is a matter of regional state government. Thus, regional state governments mentioned above, perform better on various indicators of infrastructure, health, education, and investment climate seem to be the ones that not only fully exploited the demographic dividend but also generated additional growth on top of it. Kochhar et al. (2006) argue that policy reforms implemented since the 1980s have given way to ‘multiple Indias’. They argue that in the post-1980s period, the performance across states has varied with state characteristics such as institutional quality, investment climate, labour laws, and product market regulations.

As further noted by Rao and Verghese (2009), there is a difference in the concept of HRD. In India there is a HRD ministry at the centre, and the state takes care of the public sector undertakings and also defines policy measures. On the other hand there are HR departments in various organisations. Their main contribution is in sourcing, training and retaining the knowledge workers for the sector. Rao and Verghese (2009) further argue that India has strict laws regarding employee protection.

### *Demographic dividend*

There is a concept of demographic dividend which is elaborated by Rao and Verghese (2009). In many countries, demographic shift is reached after the huge segment of adolescent and youth population

joins the total population. This occurrence happens only when there is a conversion of its population from a high to a low situation for both mortality and fertility over a particular period, which is also known as the demographic window of opportunity. Demographic dividend can be accomplished when economic growth accelerates. This occurs when the working age group population, having acquired technical and vocational skills, is productive by getting involved in economic activities. The timely implementation of national policies chains the process. This significant shifting of age structure in the Indian population, can increase economic participation and cut back dependency, which will in turn support economic growth. Many demographers and economists have predicted that India will reap the demographic dividend through its operating population, that features large hidden potential and productivity (Chandrasekhar et al.2006). Literacy rate among youth increased from 36 per cent in 1962 to 86.1 per cent in 2011. There is some distinction between male literacy (90 %) and female literacy (81.8 %), and that of rural youth (83.7 %) and urban youth (91.4 %) youth according to Census, 2011. Many countries within the globe now a days are grappling with an aging population. Over the following five to six years the average age in China and the US would be 37, Western Europe—45, and in Japan it would be 48. In this scenario of demographic profile, India's average age would comprise of young 29 years. This demographic dividend could even assist the GDP of the country add two per cent each year. Moreover, a considerable total (25 %) of the world wide increase of the working age population of 15-64 years till 2040 is projected to occur in India.

### *Demographic disaster*

Till date however, India's ability to reap the rewards of its large demographic advantage is uncertain. In line with a survey released on the occasion of World Men's Health Week, lifestyle diseases, such as diabetes and high cholesterol, are currently striking more young Indian men in metropolitan cities. In line with a large-scale government study over 40 million people from across the country screened under the Government's National Programme for Prevention and Control of Cancer, Diabetes, cardiovascular Diseases and stroke (NPCDCS) has discovered that 6.34 per cent of the population is suspected to be suffering from diabetes and over 6 per cent are hypertensive. Health being one of the factor there are other challenges like employment rights, poverty, education and training which raise the question whether the increasing youth population will lead to be demographic dividend or demographic disaster.



### *Challenges for youth employment*

#### *Employment rights*

In a context of ever-increasing costs of living and non-existent social protection, a young worker is destined to earn for him- or herself and also to provide for dependents. In extreme anxiety, they accept any job with any conditions that are offered to them. Most of these jobs are without any rights. Sometimes they are made to work for longer hours, paid much less and can be fired from their job without any notice. As a consequence, India is faced with increasing numbers of working poor.

The other challenge that young people are confronting is insecurity at the workplace. Regular and continuous forms of employment have been replaced with non-permanent job contracts that involve a specific project or activity for a defined period of time. In this scenario, employees not only lack employment-related benefits but also the capacity to plan their own life.

#### *Education and training*

The majority of youngsters have either limited or no skills. In addition to this the present education system does not prepare them for employment as it is far from meeting market demands. The avenues of good education and training are not many and extremely costly.

Technical institutions in the private sector have been drawing undue benefits from the imbalance by exploiting youngsters and their folks. Also the flow of data on the supply of training and/or job opportunities is delayed. There is also inadequacy in the operating of employment exchange, primarily due to the insignificant attention paid to trends in market and sharing knowledge. The working of Industrial Training Institutes has also been repeatedly questioned as they have been delivering training that has no market value (Dev S. et al. 2011, 2012).

As a result, young people in India confront situation that is not rendering the desired support. The current scenario provides neither reasonably priced opportunities to acquire and/or upgrade skills nor sufficient knowledge on apt employment opportunities. In the absence of such support and any sort of social security, young people, in desperation, settle for exploitative employment conditions (World Bank, 2010).

## **IMPLICATIONS**

### *Organizational implications*

The BJP-led government came to power in 2014 with a directive to repair a wavering Indian economy. Though bold campaigns like 'Make in India' and 'Digital India' have been initiated, the final yardstick with which the success of these initiatives will be assessed is the level of employment they generate. And, if statistics are a signal, it's a difficult task. Consistent with experts, only 10 percent of the Indian

workforce is in the organized sector; just 2.5 percent of the country's operating population has any professional training, compared to the average of 60 to 70 percent in developed countries (O' Higgins and Niall, 2010). Of the 11 million students graduating from different faculties each year, only 20 percent get jobs in line with their skill sets. And though women include 49 percent of India's population, they form solely 21 percent of the workforce.

### *Dichotomous situation*

A dichotomous situation exists in India with respect to youth employment. On one hand, not enough people are getting jobs and on the other, there isn't enough skilled labour in the country. From perspective of the technology industry, a huge portion of the population has been excluded from employment due to lack of availability of skilled employees. Unlike in manufacturing, where a number of low-skilled jobs exist, the technology industry has completely stayed away from generating such jobs. Over a period of time, this has to change. Some organizations have started de-skilling certain functions to a precise level of automation to assist usher in more inclusive growth when it comes to employment generation and faucet the lower end of the skill-set spectrum. India is usually seen as a labour surplus economy with a majority of workers having restricted or negligible marketable skills. Furthermore, on investigating the situation more closely one finds that India has a asymmetrical skills stock. On one hand, a huge section of the workforce are not able to get even minimum wages, as made compulsory by the government; on the other hand, there are a few people with marketable skills who are able to demand higher rewards. Recently, there has been inflated activity in the area of acquiring and updating of skills. Young people are attending various technical institutes in large numbers. This can be seen in the information and communication technology sector, which has experienced a large influx of IT-skilled workers. Additionally it has caused issues due to the unregulated growth of technical institutions in the private sector and a lack of guidance for youth in selecting career paths. As a consequence, an imbalance within the Indian labour market has created a surplus in some skills and shortages in others.

### *Education, training and development*

With reference to skills front, in India, as in other OECD [Organisation for Economic Cooperation and Development] countries, the lack of essential skills among the youth and the resultant lack of employability is an outcome of the education system. From organization's point of view, they are trying to see how they can interact more with the universities and devise training programmes for students, so that the essential skills can be imparted at an early stage, as opposed to industries running an expensive training programme at the customer's expense at the later stage.

The corporate is in the process of hiring. But if employment in the formal sector is considered, it is only 10 percent of the total working population of the country. In case of professional training, only

2.5 percent of the people in the country are vocationally trained. In any other developed country, 60 to 70 percent of the working population has received professional training. The common section of the Indian population which can be counted as being the poorest of poor, from the backward classes and with low levels of attainment, is around 306 million people. So, the problem is less to do with whether a company is hiring or not. There is a larger responsibility on India as a nation to ensure that the under-utilized potential across the country gets tapped. If immediate action is not taken in this direction reaping benefits out of demographic dividend would be difficult. Corporations can play a vital role in the process of creating employment, but it is largely a function of the way in which the economy is progressing and generating youth who are ready with required skills to get employed in India.

### ***Societal implications***

#### ***Poverty and health***

Poverty index is a predominant indicator for youth development in India, which may be considered the first pillar of youth development. In every context, the poverty index clearly shows that the lower the economic condition of the household, the more disadvantaged the youth. Poverty definitely leaves its mark on youth development in India along with the negative impact on their health and nourishment affecting the productivity of the youth (Dreze et al.2011).

#### ***Women – security and social restrictions***

The opening up of the Indian economy has created increased employment opportunities for female workers, particularly in technology, retail, travel and tourism. Their full engagement, however, remains constrained due to problems of personal security, biased attitudes of co-workers and social traditions and customs (Hudson,2005; Druskat & Wheeler 2003). Various studies have indicated marriage and child and elderly care as major causes of women workers withdrawing from the labour market.

#### ***Social Nuisance***

With regards to social nuisance, governments are precisely concerned about increasing levels of youth unemployment and underemployment because of not only the direct economic costs, but also due to the social impact of joblessness as manifested by increased physical and mental health problems ,violence, drug taking and other social outcomes (Bell and Blanchflower, 2009; Urdal and Henrik,2006).

## CONCLUSION

Despite its demographic dividend and increased literacy levels, India faces youth unemployment as a significant challenge for labour market policy. Young job seekers comprise 49 per cent of the total unemployed in India. With only 10 per cent of the accessible work provided by the formal sector, a significant number of well-educated youth in India are either unemployed, underemployed, seeking employment or between jobs, or addressing insecure work arrangements.

India's main challenge concerning youth unemployment is the lack of any form of social security system, as well as proper and adequate avenues for professional training. In an context of vast opportunities for economic growth, India requires more national as well as international cooperation among different labour market actors (trade unions, vocational training organisations, committees at the national level) to sustain it (Visara,1998). India should have a one-point agenda that is to educate the new generation and improve school curriculum.

The country is so focused on IIMs and IITs that it has no time for the concentration on basic school education. Financial aids have to be put into basic and further education, poverty eradication and health related initiatives.

In the Indian context, major emphasis has been placed on skills development. In this regard, the National Skills Development Policy (2009) sets a target of training 500 million skilled individuals by 2022, which will be reached by expanding public institutions in rural areas; using innovative delivery models; using skill development centres in rural areas to provide training information, guidance and delivery; involving panchayats and local government in skill delivery; improving entrance to apprenticeships and raising female participation in training (Ministry of Labour and Employment 2009). Moreover, the role of the Industrial Training Institutions (ITIs) is important in delivering technical skills to the youth and helping them access better sources of livelihood. Also, a quality education can counteract the social factors that hinder women's labour market participation.

"Besides education, health is key to nation-building" Dr. Terrence Hermon from Mumbai who spoke to The American Bazaar, said. The success mantra of transforming the demographic dividend into an economic growth lies not just in having more people, but generating large numbers of better trained, healthier and more productive people. India must connect the advantage of its youth to fulfill its economic potential, and in turn must generate growth in order to continue to support its growing population. India must act fast on health, education and unemployment to do so. Overall, the challenge is both in terms of job creation and the preparation of young people for the labour market to guarantee that India's demographic dividend does not become the often quoted 'demographic disaster'.

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## COMPANIES WITHOUT EQUITY: CONSIDERATIONS FROM ITALIAN RECENT EXPERIENCES

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### ABSTRACT

To overcome the economic crisis and boost employment for young people, Italy has disclosed a new type of limited company, characterized by facilities administrative provisions and especially from a paltry initial capital (only 1 euro). The paper describes this innovative legislation, emphasizing the goals and above all the risk of funding activities undocumented economic risk capital. After about four years after the introduction of these companies set up by young entrepreneurs, we evaluate the results, considering the number of companies and sectors where they operate. Statistical quantitative analysis has solicited many reflections on functions of equity and the effective possibility that productive activities free from internal sources made by shareholders can still be economically and financially stable, which is a necessary condition for their durability.

**Keywords:** *Private Equity; Venture Capital; Society Without Equity; Financial Requirements.*

### INTRODUCTORY PROPOSITIONS

A strong tradition of Italian and international economic literature considers that any business should be based on a reasonable, although not exclusively, owners' equity.

The size of this contribution of the entrepreneur is discussed and should be such that it does not affect the ordinary account making it complex to burdens and deadlines that characterize the external sources of finance.

The need for a startup capital represents, however, a barrier to entrepreneurship of young people who, of course, may not have sufficient means to ensure permanent financial autonomy at nasciture initiatives.

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\*The paper is the result of a collaborative work. However it is possible to attribute to Giuseppe Napoli: legislative profiles, initial discussions, assumption of data, their description and further discussions. The other sections are of Guido Migliaccio.

The economic crisis of the past few years has prompted the Italian Government to experiment with alternative social forms characterised by a considerable simplification in the Constitution and ordinary operations and above all by the absence of initial capital.

In doing so, you will want to boost the economy by encouraging the initiatives of young entrepreneurs.

The norm, however, has puzzled scholars and practitioners and therefore scientific research has a duty to evaluate its effectiveness, evaluating the results after a few years of existence.

## **AIMS AND STRUCTURE OF THE PAPER**

This paper wants to answer some questions:

- A reasonable size of the initial capital is a necessary condition for the harmonious development of a business?
- What are the essential functions of venture capital?
- What are the correct quantitative and qualitative relationships between internal and external sources?
- The Italian rules which have spread simplified companies without venture capital have had the desired effect?
- How many companies have been set up with such innovative regulations, and, in a few years, what are the results obtained?
- In what circumstances a company with no equity are still unable to reach an adequate economic and financial balance?

Therefore this contribution would analyze the effects of the Italian rules on domestic production dynamics as a result of the promulgation of legal corpus enabling the commencement of companies substantially without share capital. In Particular, the objectives of this paper are:

- . see if one can actually run a company in the long run despite being constituted without capital;
- evaluate the success of an initiative aimed at the development of entrepreneurial logic among young people;
- identify productive sectors more suited to the spread of companies like that.

In the beginning part, the paper discusses Italian literature review, and some references about the most widespread international doctrine.

Subsequently, it describes, even briefly, the classic functions attributed to risk capital, a factor of production in a residual position.

So, the innovations of the law passed by Monti in particular Italia. In government, listing the major simplifications, one focusing on the minimum limit of only 1 euro which has essentially eliminated the requirement of an initial equity capital.

Following are some quantitative evidence on companies formed thanks to this rule a few years after its promulgation, in other words you want to evaluate the actual boost to productivity growth of such small companies. In conclusion we formulate some considerations and proposals outlining possible future research developments.

## **RESEARCH APPROACH**

Recently were released some data relating to small limited liability company, without equity, constituted on the basis of a rule intended by the Italian government to Mario Monti.

Objectives of the paper will be achieved with some theoretical considerations based on those data that are still processed and linked to the finding of other statistical sources.

The paper, therefore, does not present the results of a specific quantitative survey. It, plays, enriching the effects on the national economy of a law aimed at the development of the economy. It has an interdisciplinary fair because it originates from the combination of general economic, managerial, juridical, ethical etc. aspects.

The proposed considerations are based, of course, also on the established tradition of the best scientific doctrine, especially Italian.

## **INTERNATIONAL LITERATURE REVIEW (NOTES)**

The wide international literature refers importance of leverage that relates the size of their capital and the scale of investment and, consequently, the volume of third party sources. So already in the contribution of Miller (1991) and then, in those of Chaplinsky and Niehaus (1993), Wei et al. (1998), Johnson (2003), M.L. Lemmon et al. (2008), Korteweg (2010), and Denis McKeon (2012), etc. In each written text, the central role of leverage in different situations investigated is underlined, it is often supported by the necessary quantitative surveys. Besides, is necessary the study of the contributions that analyse the capital structure and its balance (Hodder and Senbet, 1990; Berens and Cuny, 1995; Myers, 2001; Rauh and Sufi, 2010), also considering its connections with the strategy (Barton and Gordon, 1988), the influence of costs (Bagwell and Zechner, 1993), the countervailing incentives (Spiegel and Spulber, 1997), the market timing (Baker and Wurgler, 2002), the stock returns (Welch, 2004), the credit ratings (Kisgen, 2006), the costly enforcement (Hvide and Leite, 2008), etc.



Although the considerations for the capital functions are numerous, there aren't specialized studies about companies in corporate form that can be set up without venture capital, because the existing laws often order an initial minimal equipment. Therefore it is important to investigate the Italian situations that is being tested after the inclusion of the rules.

## ITALIAN LITERATURE REVIEW

It is very difficult to propose a comprehensive literature review in a few pages. The theme is interdisciplinary and can be approached in different perspectives.

As part of the vast Italian bibliography, almost all volumes of business administration, after outlining the main features of your capital and credit, reiterate the impossibility of setting optimal unique relationships between the different sources of funding. Merely to cite publications from the second half of the last century, it is definitely necessary to read Onida (1985) and his previous essay of 1951 dedicated exclusively to the optimal size of the business capital.

The monograph which has better focused the issue, being exclusively related to the relations between capital and credit in corporate financing, it is definitely written by Capaldo 1967.

Followed, in subsequent decades, reflections adapting previous insights to changing economy: Tagi (1991), Capodaglio (2005), Pavesi (2011), Patané (2012), Gervasoni and Sattin (2015).

Interesting considerations are also contained in the publications that relate to the financial needs of all characteristic businesses and most widespread in the credit sector strategies: Bonora Grassilli and Mondini (1989); Omarini (1993); Tagi (2000).

In the new millennium, however, the best Italian doctrine was focused primarily on financial market dynamics where to raise funds. With specific reference to private equity and venture capital, in addition to more diffuse manual corporate finance, see: Corigliano (Ed) (2001); Modena (2003); Blandini (2005); Kotler et al. (2007); Miglietta and Schiesari (2012); Cataldo (2014).

Interesting considerations also characterize monographs relating to some specific sectors such as banks (Flower, 1983; Remains and Maccarinelli, 1993) where venture capital has had, especially in the past, a relatively small size compared to the volumes traded funds, generating even recent insistence of pearl control authorities recapitalization of banks for maximum protection of depositors.

Italians have also significant studies related to small medium-sized businesses that characterize the Italian productive system and who often complain of difficulties their financial equilibrium. Among others: Ferri (2002); Rija (2006); Thistles and Ughetto (Eds) (2013).

Although for different reasons, many authors reaffirm the necessary functions on equity for the benefit of the durability of the companies that are to be briefly summarized before introducing the specific object of this paper.

## THE TRADITIONAL FUNCTIONS OF EQUITY

The typical production process of each company is developed through constant relations with the outside world: it is therefore often claimed that the property assets was primarily necessary to protect third party creditors (Migliaccio, 1994). Recently the obvious observation that often the balance sheet entities is still insufficiently induced to introduce new and alternative subjects of other studies.

The capital functions that affect all management options vary according to different technical and legal categories of companies, the presence of any operational constraints, and possible problems or sectoral specializations established by the directions.

The first obvious feature, typical of all companies, would be to finance the initial start-up (pay structures and advertising launch campaigns), as well as the overcoming of barriers to entry.

In normal operations, then, equity capital plays an economic and financial functions that are reflected in the company policy. From an economic viewpoint, in fact, the capital could face possible losses if the financial reserves of the net profits were low wage earners. Moreover by comparing the magnitude of the net to the overall financing needs for and the impact of external financing charges it occurs that the lowest ratio between equity and debt does not necessarily mean a modest or marginal contribution to economic dynamics.

At the same time, compared to the financial dynamics, capital constitutes a supply immobilized with no time limit, for an ideal cover of the constant needs of fixed assets and other investments stagnated or very fluid.

Similarly, in the processes and retrieval of liquidity can provide a very useful contribution because it does not originate from cash requirements, rather typical of frequent debt maturities, and especially not involve procurement costs, and then further out, creating the premise for useful growing and net positive cash flows and growing, resulting in further developments of business. La considerable amount of equity capital, available shortly, stabilizes then the dynamics of the treasury is often conditioned by the needs of customers are not always easily predictable.

More benefits on the economic-financial may result from the release of resources from the constraint of the legal reserve subsequent to risk capital increases, with expansionary effects of loans especially long-term.

The increased availability of capital without repayment constraints also enables strategic investments linked to technological innovation and the diversification of services, otherwise much more expensive. We must consider, in conclusion, that the new credit supervision rules favoring lending to needy companies characterized, however, by appropriate asset correlations, despite the inability to establish universally valid good terms.<sup>7</sup>

## LEGISLATIVE PROFILES

Article. 3 of Decree Law 1/2012, the so-called liberalization decree introduced in the Civil Code art. 2463 bis entitled "Simplified Limited Company" - SRLS.

In our system we have introduced a new type of joint-stock companies, simplified especially in the deployment phase, the exclusion of members, in the transfer of investments and the dissolution.

When the first drafted the rule is that the company is on contract, or unilateral act drawn up in the form of private agreement, and with the adoption of a standard typed statute. They can be of members, only natural persons, who have not attained the age of thirty five years of age at the date of incorporation.

The minimum share capital is fully paid in cash in hand at the time of the constitution, it must be at least equal to a euro but less than € 10,000.

The registration of companies is practically without expenses.

The completion of 35 years of age of a member is a reason for exclusion with the right to reimbursement of the proportional participation of the equity. Company shares can be transferred by private deed to be filed with the Register of Companies.

The SRLS melts, as well as for other reasons provided by the corporation, for the completion of 35 years of age of all members if the Assembly does not act the transformation.

This rule (art. 2463 bis), already amended by Law 27/2012 Conversion of Decree 1/2012, little more than a year of enactment, was still subject to substantial amendments work of D.L. 76/2013 converted with amendments by Law 99/2013.

In particular, with this last intervention, the legislature states that the articles of association must be drawn up by a public act in accordance with a standard model, has eliminated the limit master of 35 years for members and has provided the ability to appoint directors who need not be shareholders. These innovations have created problems of coordination with the standard model statute adopted on the basis of previous legislation and is now in reset.

## INITIAL DISCUSSIONS

The stated objective of the standard is to promote the launch of new business initiatives by young people. In fact, the law affects especially in the company formation stage, but not on the next management. The constitution is made easier especially for times and costs: adoption of the standard model of association without legal fees and subsequent registration in the Register of Companies with almost no cost .

In fact it is difficult to completely eliminate any constituent burden, as the norm would like, as it is always appropriate assistance from a company law expert to prevent subsequent disputes between

members of specialist expertise to assess the feasibility of administrative, technical, economic and financial initiative, not least in terms of a balance between funding sources and applications. These are precisely the evaluations, which are essential during the start-up of an economic activity, however, to be more expensive in terms of cost and time. In this respect, therefore, the standard is also morally harmful to the educational and business plan as it tends to strengthen the false idea that in young people is an economic initiative without financial resources can be started.

The most obvious innovation, in fact, is the reduction of the minimum share capital for a euro that would require operating income results always positive for the durability of the initiative. Otherwise, and in the absence of equity release, you should proceed with the liquidation of the company.

In the event of loss, in fact, and in the absence of reserves set aside in capital protection, although with the formula accelerated with and without the adoption of a special shareholders' resolution of coverage, the company is dissolved. In practice, in the presence of leaks albeit meager, members to prevent the dissolution of society are forced to make their new financial resources but with simplified procedures to those of ordinary SRL.

So, in the absence of profits, a situation most likely in the early years of operation, also for the lack of proper planning and verification of the feasibility of the initiative, members would find to make after the Constitution that do not have the financial means made on incorporation.

For small business could be useful the alternative of a sole proprietorship: it too can start on one day and "free of charge".

The SSRL would only benefit of limiting the liability of members. This advantage, however, is only fictitious as the company, in a banking system in which banks look more to the programs, will hardly be able to get credit lines being precisely without history and without capital; while suppliers, for the same reasons will demand payment in cash.

## ASSUMPTION OF DATA, THEIR DESCRIPTION AND FURTHER DISCUSSIONS

AFTER FOUR YEARS OF VALIDITY OF THE LAW, HOWEVER, THE RESULTS IN TERMS OF COMPANIES INCORPORATED SEEM POSITIVE (GALIMBERTI, 2016): IN FACT, DESPITE NUMEROUS LEGISLATIVE CHANGES THE TREND OF REGISTERED SSRL IS GROWING (TABLE 1).

Table 1: Trend SSRL in Italia			
	2012	2013	2014
N. SSRL	3.472	16.000	28.000

Source: Galimberti, 2016.

At 30th of september 2015 the SRLS are around 5,4 % of the universal (Bauco, C. et al., 2016).

The dizzying growth of this type of company has partially offset the negative balance of enterprises in the period 2011/2015 and allowed to approach the business world especially for the young of south Central, mainly in the activities of construction, trade and catering and hospitality services, as is explained later.

Table 2 demonstrates the national distribution of SRLS: the 49,35% are located in the regions of the South Centre (Lazio, Campania, Puglia and Sicily).

Table 2: Distribuzione territoriale SRLS al 30/09/2015 in relazione alla popolazione residente			
Dettaglio territoriale srls	Iscritte in V.A.	Iscritte in %	Popolazione residente in V.A. al 01/01/2015
Lazio	15.861	19,84%	5.892.425
Campania	10.661	13,34%	5.861.529
Lombardia	8.410	10,52%	10.002.615
Sicilia	6.952	8,70%	5.092.080
Puglia	5.972	7,47%	4.090.105
Emilia Romagna	4.637	5,80%	4.450.508
Veneto	4.388	5,48%	4.927.596
Toscana	4.295	5,37%	3.752.654
Calabria	2.902	3,63%	1.976.631
Abruzzo	2.717	3,39%	1.331.574
Sardegna	2.533	3,16%	1.663.286
Piemonte	2.504	3,13%	4.424.467
Marche	2.253	2,81%	1.550.796
Umbria	1.408	1,76%	894.762
Liguria	1.301	1,62%	1.583.263
Basilicata	994	1,24%	576.619
Molise	732	0,91%	313.348
Friuli Venezia Giulia	729	0,91%	1.227.122
Trentino Alto Adige	659	0,82%	1.055.934
Valle d'Aosta	66	0,08%	128.298
Totale	79.974	100,00%	60.795.612

Source: Unioncamere, Istat, Our calculations.

There is direct correlation between SRLS registered and resident population: the decrease of one diminishes the other, with the exception of the regions Lazio, Lombardia, Emilia Romagna, Veneto and particularly Piemonte. In, Lazio has about 20% of company to receive a portion of approximately 10% to the population. Lombardy, however, has an inverse relationship: in a population of about 16% corresponds to a percentage of 10% SRLS. Even for the other regions mentioned the relationship is inverse. Other abnormal finding is in Campania which, together with Lazio, has a percentage of SRLS recorded higher than the percentage of the population. These two regions have used the new type of company in considerably greater extent than the other: have the 19,34% of the population with 33,18% of the registered companies.

It is interesting to understand why these two regions account for a third of SRLS, maybe even considering the local unemployment: some answers you might get in the first analysis of Table 3.

Table 3: Distribuzione territoriale SRLS al 30/09/2015 in relazione al numero di persone in cerca di occupazione di 15 anni e oltre

Dettaglio territoriale srls	Iscritte in V.A.	Iscritte in %	Persone in cerca di occupazione al IV trim 2015 V.A.
Lazio	15.861	19,84%	295.160
Campania	10.661	13,34%	390.890
Lombardia	8.410	10,52%	393.090
Sicilia	6.952	8,70%	356.600
Puglia	5.972	7,47%	311.230
Emilia Romagna	4.637	5,80%	159.610
Veneto	4.388	5,48%	163.830
Toscana	4.295	5,37%	160.010
Calabria	2.902	3,63%	144.800
Abruzzo	2.717	3,39%	70.580
Sardegna	2.533	3,16%	111.500
Piemonte	2.504	3,13%	191.570
Marche	2.253	2,81%	81.650
Umbria	1.408	1,76%	42.120
Liguria	1.301	1,62%	64.160
Basilicata	994	1,24%	30.420
Molise	732	0,91%	15.530
Friuli Venezia Giulia	729	0,91%	36.700
Trentino Alto Adige	659	0,82%	27.880
Valle d' Aosta	66	0,08%	5.840
Totale	79.974	100,00%	3.053.170

Source: Unioncamere, Istat, Our calculations.

It can observe a direct relationship between SRLS registered people looking for employment, and over 15 years: the first magnitude decreases with decreasing the second. unaligned data are those of Lazio and Piedmont. Lazio, the fifth for persons seeking employment, has the highest number of SRLS; conversely Piedmont sixth for people looking for employment, it is only twelfth for SRLS members. To be investigated in the future, the motividell'anomalia.

Table 4 relates the territorial distribution of SRLS the unemployment rate.

Table 4: Distribuzione territoriale SRLS al 30/09/2015 in relazione al tasso di disoccupazione			
Dettaglio territoriale srls	Iscritte in V.A.	Popolazione residente in V.A. al 01/01/2015	Iscritte per ogni mille abitanti
Lazio	15.861	5.892.425	2,7
Campania	10.661	5.861.529	1,8
Lombardia	8.410	10.002.615	0,84
Sicilia	6.952	5.092.080	1,37
Puglia	5.972	4.090.105	1,46
Emilia Romagna	4.637	4.450.508	1,04
Veneto	4.388	4.927.596	0,89
Toscana	4.295	3.752.654	1,14
Calabria	2.902	1.976.631	1,47
Abruzzo	2.717	1.331.574	2,04
Sardegna	2.533	1.663.286	1,52
Piemonte	2.504	4.424.467	0,57

Marche	2.253	1.550.796	1,45
Umbria	1.408	894.762	1,57
Liguria	1.301	1.583.263	0,82
Basilicata	994	576.619	1,72
Molise	732	313.348	2,34
Friuli Venezia Giulia	729	1.227.122	0,59
Trentino Alto Adige	659	1.055.934	0,62
Valle d'Aosta	66	128.298	0,51
Totale	79.974	60.795.612	

Source: Unioncamere, Istat, Our calculations.

Even between these two variabili'è a direct correlation. Bocking still Lazio.

In first conclusion it is clear that the SRLS phenomenon has manifested itself mainly in the south center, closely related to unemployment, less with the resident population.

Table 5 describes the delleSRLS economic sectors.

Table 5: Distribuzione settoriale SRLS al 30/09/2015	
Settori ATECO 2007	Iscritte attive
Agricoltura, silvicoltura e pesca	412
Estrazione di minerali da cave e miniere	19
Attività manifatturiere	4.161
Fornitura di energia elettrica, gas, vapore e aria condizionata	103
Fornitura di acqua; reti fognarie, gestione rifiuti e risanamento	106
Costruzioni	8.667
Commercio all'ingrosso e al dett.; riparazione di autoveicoli e motocicli	12.843
Trasporto e magazzinaggio	1.208
Attività di servizi, alloggio e ristorazione	6.290
Servizi di informazione e comunicazione	3.155
Attività finanziarie e assicurative	238
Attività immobiliari	1.040
Attività professionali, scientifiche e tecniche	3.370
Noleggio, agenzie di viaggio, servizi di supporto alle imprese	2.917
Istruzione	288
Sanità e assistenza sociale	315
Attività artistiche, sportive, di intrattenimento e divertimento	959
Altre attività di servizi	2.142
Attività di famiglie e convivenze (datori di lavoro); prod. Beni e servizi indiff.	1
Totale	48.234

Source: Unioncamere, Our calculations.

It is noted that about 54% of registered and active SRLS were formed in the traditional sectors (primary, secondary and tertiary): between agriculture, manufacturing and trade, excluding services, there are about 540 each SRLS 1000. The traditional services, however, they account for about 35%, for a total of traditional sectors accounting for 89%. The other 11% is distributed between communication and information services (6.5%) and other services (4.5%): the SRLSnon contributed to the development of innovative sectors.

Table 6 allows youth about the commitment considerations.

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Table 6: Distribuzione settoriale SRLS al 30/09/2015 e relazione con dato anagrafico	
Settori ATECO 2007	Iscritte attive
Agricoltura, silvicoltura e pesca	412
Estrazione di minerali da cave e miniere	19
Attività manifatturiere	4.161
Fornitura di energia elettrica, gas, vapore e aria condizionata	103
Fornitura di acqua; reti fognarie, gestione rifiuti e risanamento	106
Costruzioni	8.667
Commercio all'ingrosso e al dett.; riparazione di autoveicoli e motocicli	12.843
Trasporto e magazzinaggio	1.208
Attività di servizi, alloggio e ristorazione	6.290
Servizi di informazione e comunicazione	3.155
Attività finanziarie e assicurative	238
Attività immobiliari	1.040
Attività professionali, scientifiche e tecniche	3.370
Noleggio, agenzie di viaggio, servizi di supporto alle imprese	2.917
Istruzione	288
Sanità e assistenza sociale	315
Attività artistiche, sportive, di intrattenimento e divertimento	959
Altre attività di servizi	2.142
Attività di famiglie e convivenze (datori di lavoro); prod. Beni e servizi indiff.	1
<b>Totale</b>	<b>48.234</b>
Source: Unioncamere, Our calculations.	

About a third of SRLS registered and active are young people under the age of 35 years. From Tables 5 and 6 shows that only 60% (48,234) of SRLS iscrivite (79,974) said they had started the business, while only 33% of active consists of under 35. It then highlights the ineffectiveness of the standard insertion occupazionale dei youth: it would seem that allowed the establishment of several companies but not always the their actual launch!

Among active SRLS is then necessary to quantify and assess the financial results for estimating their durability. First, the determination of the turnover (Table 7).

Table 7: Distribuzione SRLS per classi di ricavi	
Classi di ricavi	V.A.
Minore o uguale a € 10.000	10.808
da € 10.000 a € 100.000	11.620
da € 100.000 a € 1.000.000	6.741
Oltre € 1.000.000	294
<b>Totale</b>	<b>29.463</b>
Source: Calculations FNC su dati Bvd.	

The sample is observed approximately 61% of active SRLS. Over a third of SRLS (37%) produces revenues below 10,000 Euros, a very modest threshold in the production of goods and trade should the companies, while second a contribution margin of 50% and a non-employee designated only (the partner), may not provide a cash flow. Positive results would be close to zero, however, possible in the innovative services sector, including General professionali. In one can observe that about 76% of SRLS the sample does not exceed 100,000 Euros in revenues.



To express more reliable judgments it is necessary to evaluate the profitability outcomes (Table 8).

Table 8: Distribuzione SRLS per classi di risultato netto di esercizio	
Classi di risultato netto	V.A.
Minore o uguale a zero	13.665
da zero a € 5.000	9.740
da € 5.000 a€ 10.000	2.655
da € 10.000 a€ 100.000	3.328
da € 100.000 a€ 1.000.000	86
<b>Totale</b>	<b>29.474</b>
<i>Source: Calculations FNC su dati Bvd.</i>	

46% of the observed SRLS is at a loss. Considerations also pessimistic for SRLS with profits up to € 5,000 (about 80% of the total), with profits up to € 10,000 (about 90%); many active SRLS not seem appropriate to continue the business without recapitalize. because certainly it is alarming that seems to confirm the initial concerns.

## CLOSING REMARKS, LIMITATIONS AND FUTURE RESEARCH

In the past, it was widely shared opinion that an adequate equity base was an absolute necessity. It was discussed, exclusively, of the appropriate size of such means in respect to the risk to those of credit.

The law analyzed in this paper, however, seems to refute the same need to acquire an adequate amount of equity capital, by inverting, then, what is normally asserted, in the first instance it would appear that the guarantee for the benefit of creditors generally attributed to shareholders' is now to be only attributable to economic-financial balance of the company permanently operating in the markets. In the experiment concerning SRLS it should be just one symptom of this changed relationship between lenders and business ownership, maybe extendable, *mutatis mutandis*, to other types of companies.

However, a critical judgment on the exposed standards and data should consider two different perspectives.

In a political and economic vision of the rule that frees itself from an initial endowment certainly encourages young people and their entry into production realities. It avoids, as well, to influence the choices based social extraction and thus to family resources. The rule analyzed would therefore respond to a typical social need of the Italian reality, definitely be extended to other countries. It has definitely had an "educational" function towards the younger generation, encouraging their entry where aspiring actors in the productive reality which must establish itself as a viable alternative state and, more generally welfarism. Without significant constraints, the unemployed youth are surely been led to form the role of entrepreneur in the areas at their most congenial. In that sense data are really

encouraging and should emphasize the effectiveness in the first four years of introduced by Law experimentation.

In a more typical managerial dimension, however, must be reiterated several times concerns highlighted in the presentation of results: starting a business does not automatically mean being able to produce a stable, and thus to affirm the productive body as enduring star of the production company!

Although subsidized, goodwill remains complex, especially when lacking adequate management culture. In this sense, the rule could paradoxically have a negative educational effect, inducing subjects unprepared and incompetent to formalize an organism without necessary awareness of the difficulties to establish itself in the context of globalized competitive markets. These difficulties emerge significantly from the analysis of the dimensions of the results obtained and the high corporate mortality that occurs.

These considerations are based on the statistics offered by the analyzed study (Bauco, C. et al., 2016) that should, however, be further developed, especially by analyzing a larger sample of budgets and monitoring the performance of the main indicators of the time. It will, therefore, be necessary, in the future, to continue to assess the trend of the new constitutions, but also calculate the number of companies liquidated or bankrupt by investigating their most frequent causes, and especially the operating results of these production organisms. The profitability remains, even in these cases, the first and fundamental management of economy indicator that ensures the durability of the company. Where they might emerge modest these activities could hardly persist, negating the objectives of the legislature, and transforming the apparently positive results in unfortunate outcomes for the national economy, as well as the initiators that you would find again the unemployed, further demotivated by failure.

To prevent such unfortunate outcomes that unfortunately appear likely, the state should intervene not only in the start-up company, but also witnessing the process of growth and development of new companies established for the purpose of stabilizing them, of course, hoping to meet people willing to productive lifelong learning.

To this end, at technical and economics universities should play a paramount role.

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## **RISK MANAGEMENT AND CORPORATE GOVERNANCE MODEL OF THE ITALIAN CREDIT COOPERATIVE BANKS**

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### **ABSTRACT**

Our research is a conceptual study in which we identify and discuss the Corporate Governance structure and the Risk Governance Framework of 364 Italian credit cooperative banks in 2015.

As sound corporate governance and internal controls have become the determinant elements for the stability of every single institution and of the overall financial system, we tried to draft a Corporate Governance and Risk Management model in order to evaluate its adequacy and compliance with the laws and the new regulatory requirements, imposed by the European Central Bank and the Basel Committee and transposed into the Italian legislative context by Banca d'Italia.

This adequacy can also be reflected on the capitalisation of these banks. In fact, at the end of our paper, we briefly analyse the impact of an effective Corporate Governance system on the internal capital, as required by Basel II.

Finally, we tried to consider the interaction between Corporate Governance and Risk Governance in order to strengthen the role of a robust communication among the different boards involved.

**Keywords:** *credit cooperative banks, Corporate Governance, Risk management, model*

### **INTRODUCTION**

Over the past few years the global financial crisis has brought to the collapse of numerous businesses at the international level, illustrating that no industry or jurisdiction is immune from inadequate or inappropriate Corporate Governance and risk management structure.

All businesses should have the capacity to develop policy with a full appreciation of risk and the development of a suitable set of operating procedures in order to respond to changing circumstances in a timely manner and to use an appropriate risk governance framework.

This last element has become extremely critical for every company and even more so for the banking sector. In fact, in response to this situation, since 2010 the Basel Committee has witnessed banks strengthening their overall governance practices and supervisors enhancing their processes. The Basel Committee's *Principles for enhancing corporate governance* (October 2010) represented a consistent development in the long-standing efforts to promote sound corporate governance practices for banking organisations. In general, banks have improved effective board oversight, rigorous risk management, strong internal controls, compliance and other related areas. In addition, many banks have made progress in assessing collective board skills and qualifications. In February 2013, in order to assess the progress of national authorities and the banking industry in the area of risk governance since the global financial crisis, the Financial Stability Board (FSB) issued a *Thematic review on risk governance*. In addition, the new regulatory requirements introduced in 2014 consistently modified the banking activity. The new rules introduced by the enactment of EU Regulation n. 575/2013 (CRR) and the EU Directive n. 36/2013 (CRD IV) established new capital requirements, the so-called Basel III Regulation.

National authorities have taken measures to improve regulatory and supervisory oversight of corporate and risk governance at banks. These measures include developing or strengthening existing regulation or guidance, raising supervisory expectations for the risk management function, engaging more frequently with the board and management and assessing the accuracy and usefulness of the information provided to the board. In Italy, Banca d'Italia revised regulatory documents related to Corporate Governance and Internal controls (Circolare n. 263/2006- *Nuove disposizioni di vigilanza prudenziale per le banche*- and Circolare n.285/2013- *Disposizioni di vigilanza per le banche*).

Our research fits into this framework and, in particular, we concentrated on the case of the Italian credit cooperative banks, analysing the Corporate Governance structure and the Risk Governance Framework of 364 banks in 2015. Consequently we tried to draft a model in order to evaluate its adequacy and compliance with the laws and the new regulatory requirements. This adequacy can also be reflected on the capitalisation of these banks. In fact at the end of our paper we briefly analyse the impact of an effective Corporate Governance system on the internal capital, as required by Basel II. Finally, we tried to consider the interaction between Corporate Governance and Risk Governance in order to strengthen the role of a robust communication among the different boards involved.

The remainder of this study is organized as follows. In Paragraph 1, we provide the Literature Review. In Paragraph 2 we define the specific business that we analysed and we present the Corporate Governance and the Risk Management function of the Italian BCCs. In paragraph 3 the methodology

is described. The research analysis and Discussions are presented respectively in Paragraph 4 and 5. Conclusions are in the last part of the research.

## 1. LITERATURE REVIEW

Many authors concentrated on the topic of Corporate governance (Brown et.al., 2009; Cantino, 2007). Corporate Governance has a determinant role in every company because the primary objective should be safeguarding stakeholders' interest in conformity with public interest on a sustainable basis. Corporate Governance determines the allocation of authority and responsibilities by which the business and affairs of a company are carried out by its board and senior management, including how they:

- set strategies and objectives;
- select and oversee personnel;
- operate the company business on a day-to-day basis;
- protect the interests of all stakeholders and meet shareholders' obligations;
- align corporate culture, corporate activities and behaviour with the expectation that the company will operate in a safe and sound manner, with integrity and in compliance with applicable laws and regulations; and
- establish control functions.

Some researchers concentrated on the quality of Corporate Governance and the concept of accountability (Van Essen et.al., 2013; Masocha and Weetman, 2005). Other studies focused on the case of SMEs. In particular, some researchers studied the functioning of their internal control system (Jiang and Li, 2010) and others focused on the role of risk management (Marcelino-Sadaba et.al., 2013; Leopulos et.al., 2007; Blanc Alquier and Tignol, 2006).

As regards the topic of credit unions and credit cooperative banks, Labie and Perilleux (2008) studied the Corporate Governance in Microfinance, while Smith et.al. (1981) discussed about the economic theory of these businesses. With reference to the Italian context, several researchers concentrated on this kind of banks, in terms of characteristics and role within the Italian banking sector (Bonfante, 2010; Agostini, 2009; Costa, 2007; Capriglione 2005; Bonfante, 2004; Vella, 2004; Appio, 1996). Zago and Dongili (2014) examined in depth the impact of the financial crisis on the Italian credit cooperative banks and the technical efficiency of the Italian BCCs for the period 2003 to 2012. They also discussed and tested different specifications and objective functions for BCCs. The importance of local small banks, such as BCCs, was emphasized in few studies. For example, Ferri and Messori (2000) stressed that close and long lasting customer relationship between small banks and firms can promote a favourable allocation of credit for economic growth. Usai and Vannini (2005) distinguished among

various types of banks while studying the finance-growth nexus in Italian regions. Good capitalisation, stable funds availability and liquidity have given BCCs the ability to provide credit even during the recent financial crisis, when they have replaced other banks suffering more from the credit crunch. In 2009, for example, loans to firms by the Italian BCCs have grown by 4%, while loans overall have decreased by 3% (Tarantola, 2011).

In 2007-2008, the financial crisis illustrated how different types of risk may interact with each other and consequently it revealed significant new problems in risk assessment and management. As a consequence, some researchers tried to locate the perimeter within which identify the financial risk and study methods for good management, in accordance with the requirements of Basel (Álvarez and Rossignolo 2015; Angelini, et al. 2011; Draghi, 2009).

Our research fits into this framework. We decided to concentrate on the Italian credit cooperative banks and study their Corporate Governance structure in 2015 after the new laws and requirements established by the European Central Bank, the Basel Committee and Banca d'Italia. We chose this business because in 2015 Credit Cooperative Banks represented more than fifty percent of total number of Italian banks and because they, as financial institutions, operated with SMEs. In fact, loans granted by the Italian BCCs represent 22.4% of total loans to small businesses, 8.5% to the Consumer households, 17.8% of family businesses, 8.6% of non-financial companies, 15.4% of total loans to non-profit institutions (Third Sector). However, these banks also covered a market share of 9.6% (84.3 billion Euros) of loans granted to large companies. By analysing the Corporate Governance and Risk Governance Framework of 364 banks, we aimed at evaluating the adequacy and compliance with the laws and the new regulatory requirements of their governance model. This adequacy can also be reflected on the capitalisation of these banks. In fact at the end of our paper we briefly analyse the impact of an effective Corporate Governance system on the adequacy of the internal capital, as required by Basel II. We also tried to consider the interaction between Corporate Governance and Risk Governance in order to strengthen the role of a robust communication among the different boards involved. As our research is a conceptual work, we wanted to study in depth the governance and the risk management mechanisms of these banks, by delineating a generalised model, in order to create a solid background that will be used in further research about Corporate Governance, performance and efficiency of credit cooperative banks.

## 2. CORPORATE GOVERNANCE AND RISK MANAGEMENT IN THE ITALIAN CREDIT COOPERATIVE BANKS: THEORETICAL FRAMEWORK

### 2.1 Credit Cooperative banks

Before analysing the Corporate Governance and the Risk Management model, it is important to give some details and definitions.

*A credit cooperative bank* is a member-owned financial cooperative, democratically controlled by its members, and it operates for the purpose of promoting thrift, providing credit at competitive rates and providing other financial services to its members.

More than fifty percent of total Italian banks are Banche di Credito Cooperativo (BCCs). They usually are small banks (according to the classification of Banca d'Italia) and their total weight on the loan market is 8%. In addition, they are particularly relevant for Small and Medium Enterprises (SMEs). In the Italian context, credit cooperative banks base their organisation and mission on mutualism and localism (Zago and Dongili, 2014). In 2015 there were 364 credit cooperative banks, 4,414 bank counters, 1,248,724 shareholders and 36,500 employees.

The main characteristics of these banks are:

- widespread ownership: as being cooperatives, BCCs have a variable share capital and consequently there is the so-called "open-door policy". This policy give the directors significant powers related to the possibility of choosing and excluding new members, obviously by motivating their reasons adequately;
- those who have accounts in the credit cooperative bank are its members and owners and they elect their board of directors in a one-person-one-vote system, regardless of their amount invested;
- link with the territory: members must live and/or operate where their bank operates;
- mutualism: BCCs' activities must be prevalently towards members because they are "not-for-profit" oriented. In fact, their purpose is to serve their members rather than to maximize profits;
- very limited profit-seeking nature: credit cooperative banks must allocate most of their annual profits to legal reserves (at least 70%) and to specific funds for the development of cooperation (at least 3%).

As mentioned above, the mission of the BCCs, defined by statute and law, is to pursue the spirit of mutual benefit, to promote value for members and social cohesion and sustainable development of the territory where their members operate.



This mission can be carried out and represented in two phases:

- *Production phase*: it consists in providing services at favourable conditions to their members, in terms of low interest rates on loans and high interest rates on deposits. It also consists in choosing an efficient management style, capable of maintaining the BCC's intertemporal sustainability and competitiveness, and in expanding the access to credit to otherwise excluded groups of clients.
- *Distribution Phase*: it consists in distributing resources to the territory and the social context in which they operate, through support and sponsorship of meritorious initiatives.

## 2.2 Corporate Governance Structure of BCCs

Over the past few years there have been several developments in the Corporate Governance of banks. The Basel Committee's *Principles for enhancing corporate governance* (October 2010) represented a consistent development in the long-standing efforts to promote sound corporate governance practices for banking organisations. In February 2013, in order to assess the progress of national authorities and the banking industry in the area of risk governance since the global financial crisis, the Financial Stability Board (FSB) issued a *Thematic review on risk governance*. In addition, the new regulatory requirements introduced in 2014 consistently modified the banking activity. The new rules introduced by the enactment of EU Regulation n. 575/2013 (CRR) and the EU Directive n. 36/2013 (CRD IV) established new capital requirements, the so-called Basel III Regulation. Moreover, because of these new European modifications, Banca d'Italia revised regulatory documents related to Corporate Governance and Internal controls (Circolare n. 263/2006- *Nuove disposizioni di vigilanza prudenziale per le banche*- and Circolare n.285/2013- *Disposizioni di vigilanza per le banche*). In particular, starting from 1<sup>st</sup> July 2014, banks had to adopt a new corporate governance model, reshaping the role and functions of the internal control system, emphasising their importance because sound corporate governance and internal controls have become the determinant elements for the stability of every single institution and of the overall financial system.

## 2.3 The Risk Management Function in the Italian Credit Cooperative Banks

The Risk Management function is part of the overall framework of the Internal Control System and it covers an independent position from the internal audit function.

The independent risk management function is a key component of the bank's second line of defence. This function is responsible for overseeing risk-taking activities across the enterprise and should have authority within the organisation to do so.

Key activities of the risk management function should include:

- identifying material individual, aggregate and emerging risks;
- assessing these risks and measuring the bank's exposure to them;
- subject to the review and approval of the board, developing and implementing the enterprise-wide risk governance framework, which includes the bank's risk culture, risk appetite and risk limits;
- ongoing monitoring of the risk-taking activities and risk exposures in line with the board-approved risk appetite, risk limits and corresponding capital or liquidity needs (i.e. capital planning);
- establishing an early warning or trigger system for breaches of the bank's risk appetite or limits;
- influencing and challenging decisions that give rise to material risk;
- reporting to senior management and the board or risk committee on all these items, including but not limited to proposing appropriate risk-mitigating actions.

While it is common for risk managers to work closely with individual business units, the risk management function should be sufficiently independent of the business units and should not be involved in revenue generation.

Such independence is essential because it has the possibility to have access to all business lines and functions that have the potential to generate material risk to the bank as well as to relevant risk-bearing subsidiaries and affiliates. Therefore the Risk Management Function has unrestricted access to corporate and external data.

#### *2.4 The Role of the Chief Risk Officer*

Italian credit cooperative banks, like large, complex and internationally active banks, have a senior manager (CRO - Chief Risk Officer) with overall responsibility for the bank's risk management function. The Chief Risk Officer is appointed, after verification of the requirements of the Supervisory Board, and revoked (giving reasons) by the Board of Directors, after consulting the Statutory Auditors (collegio sindacale). The appointment is then communicated to Banca d'Italia and to the entire staff of the Bank, with a special communication. Any termination of the mandate or of the person shall be immediately reported to Banca d'Italia, with related motivations.

The CRO has primary responsibility for overseeing the development and implementation of the bank's risk management function. The Chief Risk Officer is responsible for supporting the board of

directors in its engagement with and oversight of the development of the bank's risk appetite and RAS (Risk Appetite Statement) and for translating the risk appetite into a risk limits structure. Therefore the CRO, together with management, should be actively engaged in monitoring performance relative to risk-taking and risk limit adherence. The Chief Risk Officer should have the organisational stature, authority, independence and necessary skills to oversee the bank's risk management activities.

### **3. METHODOLOGY**

#### *3.1 Research design*

We chose the sample of the Italian credit cooperative banks and we analysed the Corporate Governance structure and the Risk Governance Framework of 364 banks in 2015.

Afterwards we tried to draft a model in order to evaluate its adequacy and compliance with the laws and the new regulatory requirements. Thanks to our study we also tried to demonstrate that this adequacy can also be reflected on the capitalisation of these banks. Finally, in the discussion we tried to consider the interaction between Corporate Governance and Risk Governance in order to strengthen the role of a robust communication among the different boards involved.

#### *3.2 Research question*

The following two research questions are discussed for the analysis in this study:

- RQ 1: By analysing the structure of the corporate governance of BCCs, is it possible to draft a common Corporate Governance Model? Does it comply with the laws and regulations?
- RQ 2: Does the model adequacy reflect on the capitalisation of those banks?

### **4. RESEARCH ANALYSIS**

By analysing the structure of 364 BCCs, we tried to develop a common Corporate Governance structure (Figure 1).

In line with the foregoing provisions, the model adopted outlines the main responsibilities of the corporate bodies in order to ensure the overall effectiveness and efficiency of the internal control system.

The Board of Directors is responsible for the internal control and risk management system and the definition, approval and revision of the strategic and risk management guidelines, as well as the general rules for their implementation and supervision.

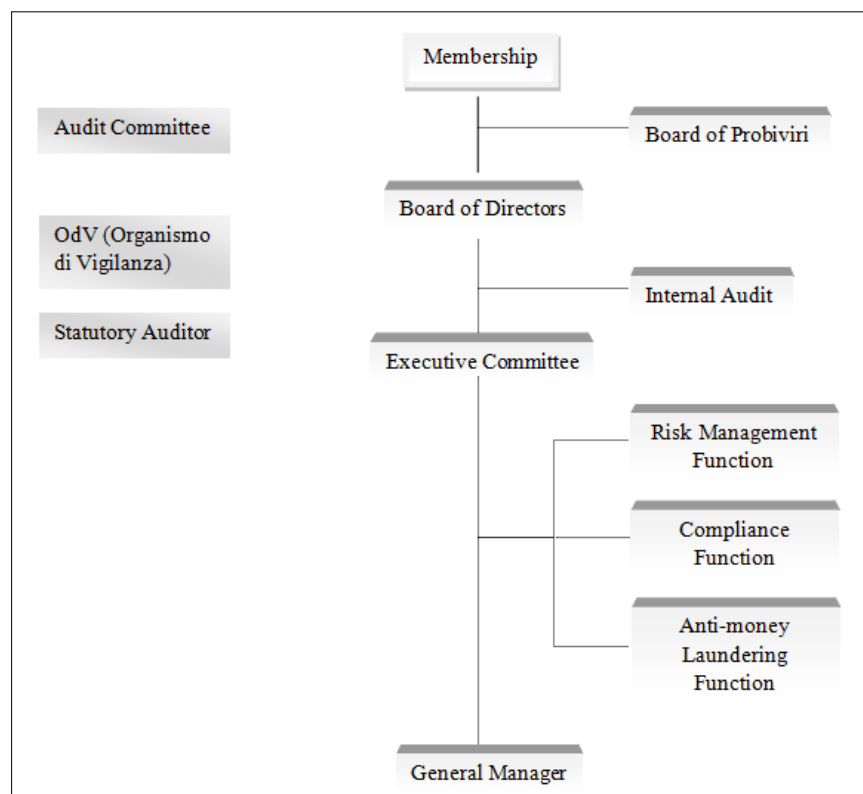
The Board of Directors designates the Executive Committee, which has an operative role in managing the bank.

The General Manager gives execution to the deliberations of the corporate bodies and they are a supervisor, assuring the right functioning of the bank and its internal procedures.

The bodies on the left of the figure (Audit Committee, Statutory Auditor and OdV) control the others. In particular, the Audit Committee is responsible for the vigilance of compliance with the law and the statute, vigilance of the respect of the correct principles of management, vigilance on the right functioning of the internal control system and on the overall organisation. In some banks, this body can carry out the statutory audit.

The Statutory Auditor is an external body, that controls that the financial statements are correct and they respect the accounting principles and policy.

The OdV (*Organismo di Vigilanza*) has to evaluate and manage an adequate internal organisation in order to avoid the bank to be criminally responsible for violations and crimes committed by employees or managers. Most of times, this body coincides with the Audit Committee.



Source: self-elaborated figure

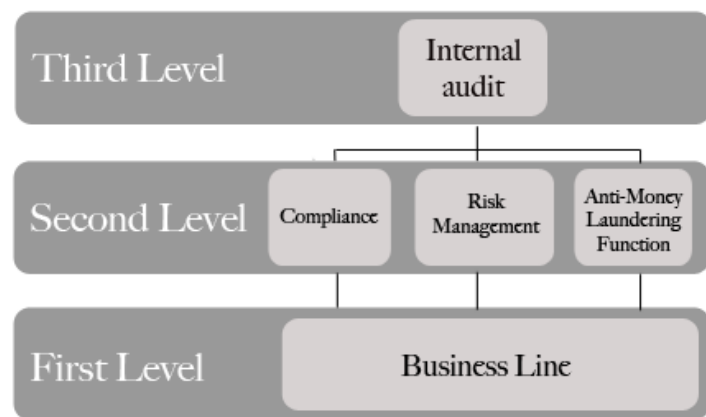
Figure 1. *The Corporate Governance structure of the Italian Credit cooperative banks*

Finally, because of the new regulatory requirements, the credit cooperative banks had to institute new bodies, in order to separate functions and guarantee the right functioning of the internal control system. These bodies are: the Internal auditor, the Risk manager, the Compliance manager and the Anti-money Laundering manager. They belong to the Risk Governance Framework. Their role is linked to the assessment, measurement and management of all the risks of a bank.

The Guidelines of the Basel Committee on Banking Supervision (Corporate Governance principles for banks - July 2015) state that *Banks should have an effective independent risk management function, under the direction of a chief risk officer (CRO), with sufficient stature, independence, resources and access to the board.* These principles also state that the risk governance framework, often referred to as the "three lines of defence", should identify the responsibilities of different parts of the organisation for addressing and managing risk.

The business line, which represents the first line of defence, has "ownership" of risk, in fact it acknowledges and manages the risk that incurs in conducting its activities. The risk management function, as explained before, is responsible for further identifying, measuring, monitoring and reporting risk on an enterprise-wide basis as part of the second line of defence, independently from the first line of defence. The compliance function monitors the compliance with laws, corporate governance rules, regulations, codes and policies to which the bank is subject. The board should approve compliance policies that are communicated to all levels. This function should assess the extent to which policies are observed and report to senior management and to the board on how the bank is managing its compliance risk. The function should also have sufficient authority, stature, independence, resources and access to the board. The other body, part of the second line of defence, is the Anti-money Laundering Function, which has the role to monitor that the bank with its activities do not break the laws against money laundering and funding of international terrorism. The internal audit function is charged with the third line of defence, conducting risk-based and general audits, by providing assurance to the board that the overall governance framework, including the risk governance framework, is effective and that policies and processes are in place and consistently applied.

Figure 2 shows the Risk Governance Framework of the Italian credit cooperative banks.



Source: self-elaborated figure

Figure 2. *The Risk Governance Framework of the Italian Credit Cooperative banks*

Consequently, by studying the structure of 364 credit cooperative banks, we can affirm that the Corporate Governance and Risk Management model is adequate and compliant with the laws and regulatory requirements. As regards RQ 2, the adequacy and compliance of the Corporate Governance and Risk Management model are reflected in the capitalisation of those banks. A proper risk assessment, measurement and management are a consequence of a sound corporate governance. Italian credit cooperative banks are well-capitalised. In fact the overall amount of equity in 2015 was on average about 20 billion Euros and their capitalization index (CET1) averaged out at 16.6% and the TCR (Total capital ratio) averaged out at 17% .

## 5. DISCUSSIONS

As we commented before, effective and sound corporate governance is a crucial element for the proper functioning of each bank and consequently for the financial stability as a whole. Banks have a significant role in the economy by intermediating funds from savers and depositors to activities that support enterprise and help drive the economic growth. The primary objective of corporate governance should be safeguarding stakeholders' interest in conformity with public interest on a sustainable basis. By analysing the Corporate Governance structure and the Risk Governance Framework, we can deduce that there is a strict link between them. Figure 3 helps us explain this relationship.



Source: self-elaborated figure

Figure 3. Corporate Governance and Risk Governance model in the Italian credit cooperative banks

The present model underlines the critical role of the corporate culture, which has to reinforce the responsible ethical behaviour.

Risk Governance Framework and Internal controls are inter-related. In fact, Internal controls are designed to ensure that each key risk has a policy and a specific process, which have to be controlled in order to monitor if they are well-applied and they work properly. Moreover, Internal controls assure that financial and management information is reliable, timely and complete and that the bank is in compliance with its various policies and applicable laws and regulations. Consequently, as the Basel Committee states, *An effective risk governance framework requires robust communication within the bank about risk, both across the organisation and through reporting to the board and senior management.*

By drafting the Corporate Governance and Risk management model, we could evaluate its adequacy and compliance with laws and European Regulation, but we could also evaluate this adequacy in terms of proper capitalisation of those banks.

Concluding, thanks to our study, we can highlight the importance for a financial institution, such as a credit cooperative bank, to have a proper organisation and an effective governance. Therefore it is essential, despite laws and regulations, to develop, spread and communicate the right culture at every level of the governance model because every company bases its own activity on people and their values.

## 6. CONCLUSION

Our research is a conceptual study in which we identify and discuss the Corporate Governance structure and the Risk Governance Framework of 364 Italian credit cooperative banks in 2015.

As sound corporate governance and internal controls have become the determinant elements for the stability of every single institution and of the overall financial system, we tried to draft a Corporate Governance and Risk Management model in order to evaluate its adequacy and compliance with the laws and the new regulatory requirements, imposed by the European Central Bank and the Basel Committee and transposed into the Italian legislative context by Banca d'Italia. This adequacy is also reflected on the capitalisation of these banks. In fact, at the end of our paper we briefly analyse the impact of an effective Corporate Governance system on the internal capital, underlining that credit cooperative banks are well-capitalised because their capital ratios are higher than those established by Basel II. Finally, we tried to consider the interaction between Corporate Governance and Risk Governance in order to strengthen the role of a robust communication among the different boards involved.

This last element can help us underline that this study represents the first step of a far deeper analysis regarding the Corporate Governance and the internal control system of the Italian credit cooperative banks. This is a conceptual work that aims at creating a solid theoretical background for further studies. Therefore we have made an attempt to develop an agenda for discussing the interaction between the risk management function and other corporate boards and for the discussion on the impact of risk management on bank performance.

In the following analyses, after individuating the Corporate Governance and the Risk Management model, we would like to evaluate the impact of Corporate Governance on the overall performance and on the efficiency of these banks. Another element to evaluate is the impact of the remuneration system on the structure of Corporate Governance and on its performance. It could be interesting to monitor these items in the period between the beginning of the financial crisis and the new regulatory requirements, introduced by the European Central Bank and the Basel Committee in order to assess the progress of national authorities and the banking industry in the area of risk governance. Another future development could consist in comparing and contrasting credit cooperative banks with listed banks or groups, in order to evaluate if and how the governance affects performance and compliance with laws. Moreover, in order to move to an international level, the case of the Italian credit cooperative banks can be compared to that of the French *Crédit Agricole* or the credit union in Germany, USA, Canada and Netherlands.



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## PROFITABILITY OF THE ITALIAN CREDIT COOPERATIVE BANKS

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### ABSTRACT

Our research explores the Italian banking sector. It's focus on the world of Credit Cooperative Banks (BCCs). The reality of the mutual banks in Italy is very important: they are 364 BCCs in 2015 for a total of over 4,400 branches throughout the Italian territory. The employees are over 37,000.

This study can help us understand the context and the main business in which banks operate. Data were extracted from Bankscope, which is a database containing comprehensive information on financial companies (banks and insurance companies) in Italy. Our sample represents 264 Italian BCCs.

In our research we want to show that the BCCs are relevant in the Italian banking sector and then the sample data are particularly significant also as an indicator of the Italian banking sector, then we have appropriately calculated the two indicators: the Profit Margin and ROE, and we put them in comparison to see how they have changed over the years.

At the end we calculate the Pearson correlation ratio between Profit/Loss and Net Banking Income of each year. Thanks to this relationship, we are able to analyze the possible correlation of Net Banking Income on the profitability of the banks, in order to assess the effects of a policy that is carried out by governance to face the difficulties that the banking world is going through.

**Keywords:** *credit cooperative banks, Profit/loss, Net banking Income, Roe*

### INTRODUCTION

The banking system of the Credit Cooperative in Italy finds its origins in the last quarter of 1800. Since their inception these credit cooperative phenomena were closely linked to the local communities in which they were establish, in fact thanks to the deep knowledge and mutual members of the community, their family situation, their personal reputation were singled out to creditworthy people.

The earliest forms of cooperative credit in Italy were the rurals and artisans who, inspired by Christian values, played a key role in stimulating the humble groups of rural people, especially farmers and craftsmen to obtain loans on terms more favourable than those applied to traditional banks.

Since then, Rural and Artisan banks have maintained a very close relationship with the territory of reference, weaving their own story with that of the communities, as to be “local banks call”.

The rural banks were also called upon to fulfil a social function, as well as financial income. In other words, the aim was not to maximize profits, but rather support the local economy. Their role was, in fact, to carry out lending activities against people belonging to certain occupational groups such as farmers and artisans, themselves members of the cooperative bank, within a given territory in order to promote social and economic development of community.

The rural banks were able to grow in number and spread over time, supporting the socio-economic development of their local areas.

In 1993, the Banking Act lays down a radical change since the naming ranging from "Rural and Artisan banks" to the current "mutual banks". By means of this decree are not operating limitations of BCCs that can offer so all the products and services of other banks.

The system of mutual banks in Italy today includes 364 banks for a total of over 4,400 branches throughout the Italian territory. The employees of the banks are over 37,000.

In total there are more than one million and two hundred thousand members of the mutual banks and mutual banks are more than 6 million customers.

The remainder of this study is organized as follows. In Paragraph 1, we provide the Literature Review. In Paragraph 2 we define the methodology. In Paragraph 3 we show the findings of our study. Discussions are presented in Paragraph 4 and conclusions in the last part of the research.

## **1. LITERATURE REVIEW**

The structure and functioning of the banking company has been studied in its entirety by many scholars (Koch and MacDonald, 2007; Ossola, 2005; Giovando and Gianoglio, 1999; Giovando, 1996). Many scholars have studied the bank account (Bocchino et al., 2013; Ossola, 2005), its performance (Barros et al., 2007; Berger and Allen, 2005; Boubakri et al., 2005) and its financial analysis (Hartvigsen, 1992). Recent studies concentrated on the accounting policy of banks, focusing on the application of the International Accounting Standards (Dezzani et al., 2014) and other specific studies focused on the analysis of the assets and liabilities of the balance sheets (Ossola, 2000).

In addition other researchers have recently analysed the impact of the new capital requirements under Basel III on bank lending rates and loan growth (Khalert and Wagner, 2015). As a result higher capital requirements, raising the marginal cost of bank funding, have led to higher rates (Cosimano, et al., 2011; Elliott, 2009; Laeven and Valencia, 2008).

Some studies focused on the way some financial entities have addressed this moment of global crisis (Crowley, 2015; Costa and Thegeia, 2013; Avdjie et al. 2012; Caprio et al., 2011). Many researchers concentrated on this period of financial crisis (Kapan and Minoiu, 2015; Calvo, 2012), highlighting the crucial role played by the liquidity risk in the stability of a bank, and, more generally, in the financial system (Borio, 2008; Dell'Ariccia et al., 2008). Some have tried to locate the perimeter within which identify the financial risk and study methods for good management, in accordance with the requirements of Basel (Álvarez and Rossignolo 2015; Angelini, et al. 2011).

An important study analyses, by means of alternative techniques, both cost and profit efficiency in a sample of ten countries of the European Union for the period 1993–1996, again obtaining profit efficiency levels lower than cost efficiency levels (Maudos, 2002).

For many years, a comparison of accounting ratios in the banking sector has shown the existence of remarkable differences in average costs. Wide ranges of return on equity (ROE) are found, although these results are more difficult to evaluate due to their greater instability.

Other studies have focused on these issues in particular the effect of banks' capitalization on banks' Return on Equity (ROE) (Blaga, 2015). A debate has emerged on the costs for banks of the increase in capital requirements under Basel III (Camara, 2014) .

Some researchers analysed the performance of banks belonging to individual countries (Faisal et al., 2015; Raus and Fu, 2014; Iqbal and Raza, 2009; Ali and Ansari, 2007; Barros Ferreira and Williams, 2007).

Iannotta, Nocera and Sironi (2007) as well as Illueca, Norden and Udell (2008) documented that bank ownership is an important determinant of lending behaviour, risk taking and performance.

With reference to the Italian context the importance of local small banks, such as BCCs, was emphasized in few studies (Usai and Vannini, 2005; Ferri and Messori, 2000), several researchers concentrated on this kind of banks, in terms of characteristics and role within the Italian banking sector (Bonfante, 2010; Agostini, 2009; Costa, 2007; Capriglione 2005; Bonfante, 2004; Vella, 2004; Appio, 1996). Zago and Dongili (2014) examined in depth the impact of the financial crisis on the Italian credit

cooperative banks and the technical efficiency of the Italian BCCs for the period 2003 to 2012. They also discussed and tested different specifications and objective functions for BCCs.

The importance of local small banks, such as BCCs, was emphasized in few studies.

Our research fits into this theme by analyzing the banking world of Italian BCCs. We considered, a sample of 264 Italian BCCs banks, which represent more than 72% of the all Italian BCC. In addition, we covers the period between 2009 and 2014. Moreover, we did not implement a sophisticated statistical model in order to pursue the effectiveness of the results and to concentrate on the real relationship between the items considered. However, thanks to our analysis, we tried to find a relation between net assets and net banking income and profit/loss of the banks of the sample.

Our approach is balance-sheet and income statement based, consequently we started from the data extracted from Bankscope database and consequently from the financial statements of banks. However, despite the limits of the research, thanks to this analysis and the results obtained, we may consider the opportunities of growth and development of our analysis.

In conclusion, one of the aims of this research is to improve the existing literature by using an empirical approach.

## 2. METHODOLOGY

The following paragraphs describe the sample and the methodology followed to conduct our research.

### *2.1 The sample and the data*

This analysis focuses on the Italian BCCs banks. Our sample represents 264 Italian BCCs total of 364 BCCs on the Italian territory, between period 2009- 2014. We decided to exclude the banks of which had not for all the years considered its financial statements. To homogenize the sample analyzed by the totality of the BCCs were excluded those that did not had the balance sheet data of a few years taken into consideration.

This study can help us understand the context and the main business in which banks operate. Data were extracted from Bankscope, which is a database containing comprehensive information on financial companies (banks and insurance companies) in Italy. In the first part of Phase 2, we focused on information about Net Assets, Net banking Income and Profit/Loss.

We want to specify that data provided in our figures all refer to the mean of the single element analysed.

In the second part, we concentrated on some ratios, such as Profit/Loss on Equity to total Assets and Net Banking Income on Profit/Loss on, provided by Bankscope.

## *2.2 Research questions and phases of analysis*

The present research is based on the following hypotheses:

- *H1*: The BCCs represent a significant banking institution in the Italian territory;
- *H2*: The Net banking Income is the profitability linked to the core business of banking. In the sample of BCCs examined the Net banking Income is preponderant.

To reach the goals of this study, we need to formulate three research questions:

- *RQ1*: What is the trend during the period monitored between the Net banking Income and the Profit/loss?
- *RQ2*: What is the trend in the period between 2009 and 2014 between the Profit Margin and ROE ?
- *RQ3*: Is there a correlation between the Net banking Income and the Profit/loss ?

The research methodology follows three phases:

- a) *Phase 1*: Analysis of the BCCs world and its characteristic features.
- b) *Phase 2*: Empirical analysis and findings. It involves an analysis of the information derived from the sample. The research methodology only uses the information provided in the financial statements because it is sufficient to answer the research questions.

With reference to *RQ1*, we want to show that the BCCs are relevant in the Italian banking sector and then the sample data are particularly significant also as an indicator of the Italian banking sector.

Referring to *RQ2*, we have appropriately calculated the two indicators: the Profit Margin and ROE, and we put them in comparison to see how they have changed over the years.

We concentrated on the analysis of the Profit Margin Ratio and ROE because we based our research on the Dupont analysis. It also called the Dupont model and it is a financial ratio based on the return on equity ratio that is used to analyze a company's ability to increase its return on equity. In other words, this model breaks down the return on equity ratio to explain how companies can increase their return for investors.

The Dupont analysis looks at three main components of the ROE ratio:

- Profit Margin;
- Total Asset Turnover;
- Financial Leverage.

Based on these three performances measures the model concludes that a company can raise its ROE by maintaining a high profit margin, increasing asset turnover, or leveraging assets more effectively. The Dupont Corporation developed this analysis in the 1920s. The name has stuck with it ever since.

With reference to *RQ3*, we calculate the Pearson correlation ratio between Profit/Loss and Net Banking Income of each year. Thanks to this relationship, we are able to analyze the possible correlation of Net Banking Income on the profitability of the banks, in order to assess the effects of a policy that is carried out by governance to face the difficulties that the banking world is going through.

As mentioned above, the correlation ratio of Pearson ( $p$ ) is used to identify a positive or negative correlation between the Profit / Loss and Net Banking Income. For this, it is necessary to emphasize the following conditions:

- if  $p > 0$  there is a direct correlation;
- if  $p = 0$  there is no correlation;
- if  $p < 0$  there is an indirect correlation;
- if  $0 < p < 0.3$  the correlation is weak;
- if  $0.3 < p < 0.7$  the correlation is moderate;
- if  $p > 0.7$  the correlation is strong.

c) *Phase 3*: Conclusions and limitations of the research.

### 3. FINDINGS

First of all, before analysing the data obtained, we want to give further details and definitions.

The Profit Margin Ratio is an index that is created as the ratio of Profit/loss and Net banking Income. This index shows the impact of different management from the Net banking Income on the operating result. ROE (Return on Equity) is calculated as the ratio between net income and shareholders' equity. It represents the net return for the shareholder.



Phase 1 concerns the stages of our research and the related comments.

Starting with *HP1*, BCC is a structured system on a network of approximately 364 Cooperative Banks. The main feature of the BCC is to be widely spread in our country, for over 130 years played their role of local banks, performing a specific function, to promote development and to address the economic and social needs of local communities. On Italian territory have 4,414 branches 14.8% of the Italian bank branches, with 1,248,724 members and 36,500 employees (including those of the Company's system). The total funding (deposits from banks + customer deposits + bonds) amounted to EUR 196.7 billion and a Customer deposits + bonds: 161.8 billion euro.

The market share of customer deposits including bonds is 7.7%. Economic Loans totaled 134 billion euro. The market share of lending for mutual banks is 7.2%.

Including loans granted by banks of the second level of the Cooperative Credit, loans amounted to 149 billion euro, for a 8% market share. On the basis of the data and the considerations it can be argued that *HP1* is confirmed and BCCs are important banking institutions in Italy. In order to proceed in our analysis we present in Table 1 the data collected referred to our sample in the period 2009-2014.

Table 1		Main items considered in the financial statement analysis					
		2009	2010	2011	2012	2013	2014
<b>Net Assets</b>	Mean	€53.248.775	€54.146.355	€51.875.244	€58.385.757	€59.852.789	€62.900.690
	Median	€38.887.792	€37.894.855	€ 36.578.651	€42.534.866	€ 42.651.894	€44.934.293
	Max	574.282.677	581.983.976	€563.434.911	€644.165.552	€706.866.923	€747.322.795
	Min	€ 2.806.597	€ 2.310.158	€ 2.102.883	€ 3.071.128	€2.608.013	€1.234.285
	Std.						
	Dev.	€ 58.023.361	€59.627.273	€ 58.253.290	€64.450.364	€ 67.170.376	€71.058.513
<b>Net banking Income</b>	Mean	€15.271.042	€14.654.857	€15.829.806	€18.808.016	€19.202.108	€22.360.217
	Median	€11.032.347	€10.384.311	€11.501.707	€13.211.618	€14.155.574	€16.069.505
	Max	€219.821.974	€96.943.712	€190.368.842	€250.573.032	€217.946.906	€248.110.914
	Min	€302.681	€902.261	€ 1.148.809	€1.248.021	€1.353.727	€1.715.234
	Std.						
	Dev.	€18.024.387	€16.826.969	€17.151.888	€21.322.259	€21.372.301	€25.148.830
<b>Profit/Loss</b>	Mean	€2.159.771	€1.370.879	€ 1.323.646	€1.428.378	€512.429	€1.203.610
	Median	€1.302.454	€894.464	€ 916.636	€1.115.313	€767.636	€917.666
	Max	€33.638.627	€30.257.871	€ 18.106.653	€20.144.982	€ 21.140.332	€25.913.278
	Min	-€3.511.339	€13.770.862	-€14.483.137	-€23.517.128	-€25.747.756	-€13.979.750
	Std.						
	Dev.	€3.202.692	€3.309.409	€2.536.456,97	€3.437.043	€ 3.979.242	€3.795.589

<b>Profit Margin Ratio</b>	Mean	13,98%	7,18%	8,83%	8,61%	0,67%	5,23%
	Median	13,58%	9,48%	9,20%	9,49%	2,17%	6,23%
	Max	191,02%	40,95%	38,56%	44,74%	12,32%	42,04%
	Min	-52,64%	-87,98%	-63,03%	-93,18%	-36,10%	-110,23%
	Std.						
	Dev.	14,70%	15,74%	10,79%	14,70%	6,62%	16,42%
<b>ROE</b>	Mean	3,96%	2,00%	2,76%	2,57%	0,67%	1,60%
	Median	3,90%	2,69%	2,92%	3,10%	2,17%	2,32%
	Max	13,38%	14,56%	14,25%	16,93%	12,32%	27,51%
	Min	-11,64%	-36,91%	-19,77%	-76,27%	-36,10%	-52,20%
	Std.						
	Dev.	2,94%	4,54%	3,78%	6,62%	6,62%	6,42%

Table 1. *Main Items considered in the financial statement analysis*

With reference to RQ 1, Figure 1 shows the trend of Net Banking Income and Profit Loss in the period between 2009 and 2014. The data refer to the mean of the sample for each year.

By analysing Table 1, we can affirm that HP2 cannot be confirmed in all the years considered.

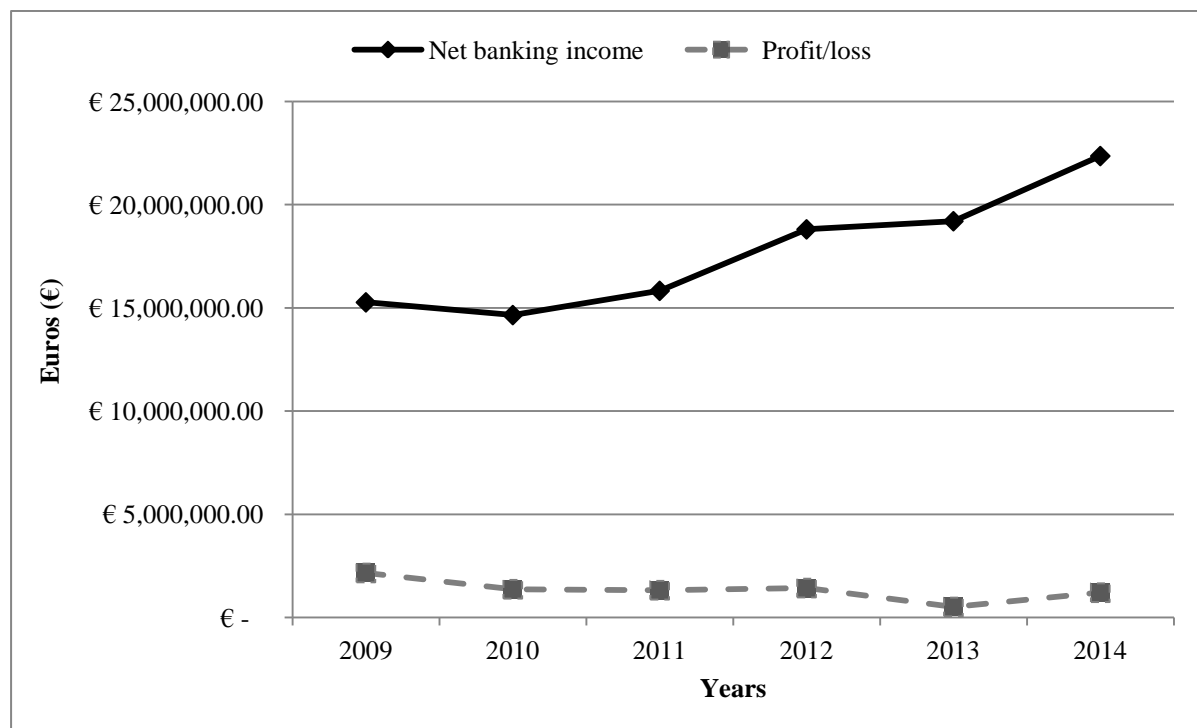


Figure 1. *The trend of Net Banking Income and Profit/Loss of BCCs in the period between 2009 and 2014*

The figure confirms our first hypothesis. Therefore, in the sample of banking firms considered, it can be noted that the Net Banking Income substantially in the years follow the Profit / Loss.

Continuing our analysis in order to answer RQ2, we analyze the second figure.

The Profit Margin Ratio is an index that is created as the ratio of Profit/loss and Net banking Income, instead, ROE (Return on Equity) is calculated as the ratio between net income and shareholders' equity.

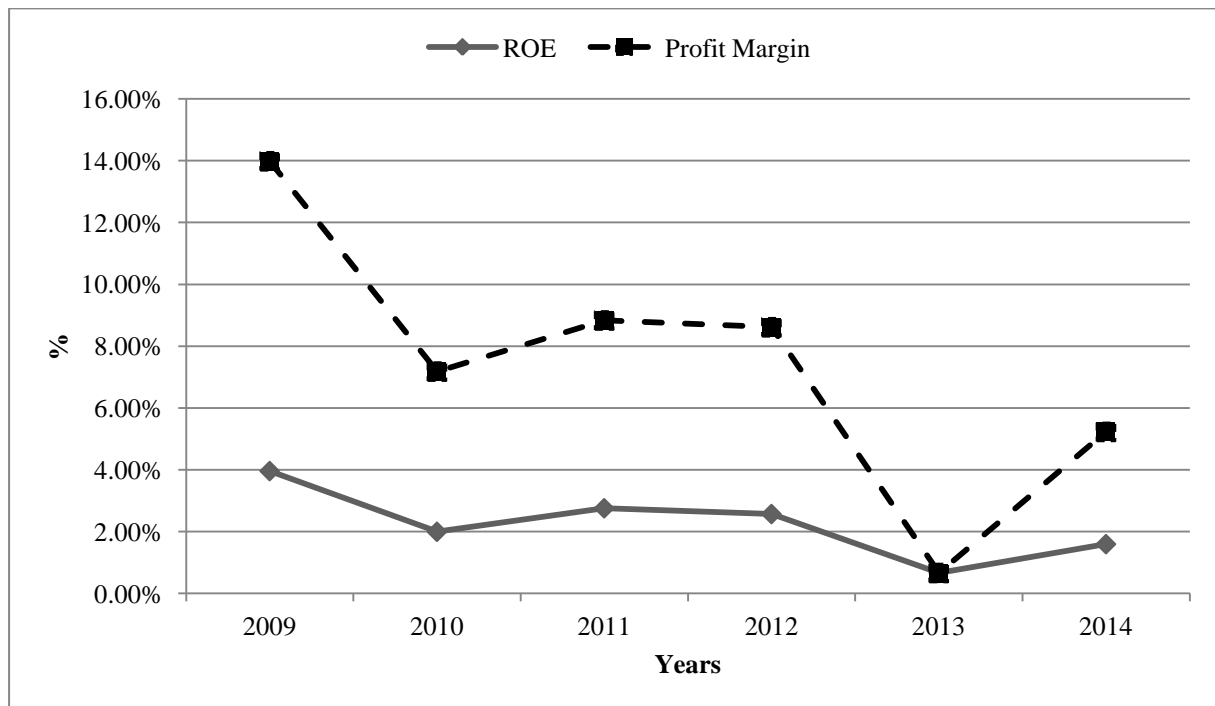


Figure 2. *The trend of ROE and the Profit Margin Ratio of BCCs in the period between 2009 and 2014*

In this figure it can be noted how the two indices do not comply with the same deviations. This shows that in the sample analyzed ROE is almost stable over the years analyzed but its composition is different.

The two figures demonstrate that the initial first hypothesis is true. In fact, as can be seen from 2009 to 2012 the Profit Margin is at higher levels of ROE while in 2013 the Profit Margin goes down is the same level of ROE and then climbs slightly up in 2014.

In order to answer RQ3, we calculated the Pearson correlation ratio between Profit/Loss and Net Banking Income of each year between 2009 to 2014.

Table 2 shows the results deriving from the Pearson correlation ratio calculated.

Table 2	The Pearson correlation ratio between Profit/loss and Net banking income						
	<b>Net Banking Income</b>	<b>Profit/Loss</b>					
			<b>2009</b>	<b>2010</b>	<b>2011</b>	<b>2012</b>	<b>2013</b>
		<b>2009</b>	0.87				
		<b>2010</b>		0.70			
		<b>2011</b>			0.56		
		<b>2012</b>				0.48	
		<b>2013</b>					0.29
		<b>2014</b>					0.55

Table 2. *The Pearson correlation ratio between Profit/Loss and Net Banking income*

The current table confirms that there is a strong correlation between the Profit / Loss and the Net Banking Income in 2009 and 2010. Instead, the correlation started decreasing from 2011 to 2013. In fact in 2013, the Pearson ratio is 0.29. In 2014, the ratio recovered.

Therefore, we can affirm that RQ3 can't be confirmed for all the years considered. And especially in recent years it is not confirmed.

In more recent years the correlation is very low.

#### 4. DISCUSSIONS

Our research and its results confirm what many previous studies stated before: the mutual banking system in Italy is important. In the world of Italian banking group BCCs are definitely relevant. Our HP1 was confirmed by the analysis of data and numbers of the whole Italian BCC system giving ample confirmation initial hypothesis.

As mentioned above, the system of mutual banks in Italy today includes 364 banks for a total of over 4,400 branches throughout the Italian territory, 14.8% of the Italian bank branches. The employees of the banks are over 37,000. Italian BCC system have 1,248,724 members and 36,500 employees (including those of the Company's system). The total funding (deposits from banks + customer deposits + bonds) amounted to EUR 196.7 billion and a Customer deposits + bonds: 161.8 billion euro.

The market share of customer deposits including bonds is 7.7%. Economic Loans totaled 134 billion euro. The market share of lending for mutual banks is 7.2%. Including loans granted by banks of the second level of the Cooperative Credit, loans amounted to 149 billion euro, for a 8% market share.

As regards HP2 and RQ1 we can affirm that the Net Banking Income trend was positive.

But the value of the Net Banking Income between 2009-2011 was not as significant, while the Profit Loss trend declined significantly between 2009 and 2010 and remained constant until 2012 and then, again, decrease in 2013. In 2014, instead the Profit, it returned to grow.

Surely the financial and economic crisis has had a negative effect both on the Net Banking Income is the profit. The decrease in 2013, the profit is linked to a negative impact of the extra-ordinary management.

As regards RQ2 the answer is less convincing. From the analysis we have carried on our sample indicates that if in the early years (2009 and 2010) there is a substantial correlation is not the case in recent years.

So we can argue that in the years 2009 and 2010, the Profit / Loss was influenced by the Net Banking Income. In the following years this correlation is lower, in fact, in 2013 the Pearson index is around 0.29.

This may mean that in the following years the crisis and the persistence of the banking crisis of the BCCs has diversified its activities. Those activities that affect our income statement therefore do not always represent the core business of banking.

So RQ2 is not verified and we can deduce that the banking business over the years has evolved in areas not always the bank's core. All this can also be explained by the crisis of the banking business and then accordingly also in bank intermediation which led the bank's governance to change their business objectives.

## 5. CONCLUSIONS

This study focused on the world of Italian BCCs. We could analyze their size with a very significant sample. From this study we were able to note the relevance of the BCCs in Italy.

Later we have tested the sample the possible relevance of Net Banking Income on Profit / Loss.

Afterwards we analyzed the Profit Margin Ratio (index that is created as the ratio of Profit/loss and Net banking Income) and ROE (Return on Equity) during the period 2009 to 2014.

Finally we concentrated on the relationship between Net Banking Income and the Profit /Loss of the data Italian BCCs banks between the period 2009 and 2014. We have noticed that the correlation in recent years appears weak.

We noted that such importance was low especially in recent years. The study thus points out that the banking business especially during the crisis years has moved away of the core to explore and develop other activities.

Data were extracted from a database, called Bankscope, which is a database containing comprehensive information on financial companies (banks and insurance companies) in Italy.

Our research raises important questions regarding the BCCs field of the resonance in Italy and the evolution of their business in recent years.

What we have also analyzed possible to introduce all the limitations of this research. First, this study represents the first step of a much deeper analysis that can take into account other variables, financial indicators and margins. We decided not to use an extremely complex model because we aimed to achieve effective results and focusing on the true relationship between the factors taken into account.

One of the future developments is to extend both the years under consideration in the same analysis to other banks that do not belong to the world BCCs in order to compare and contrast the situation between different realities.

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## CONSTRAINTS AND FACILITATORS OF SOCIAL ENTREPRENEURSHIP DEVELOPMENT IN MOUNTAINOUS AREAS: THE CASE OF PYLI IN GREECE

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### ABSTRACT

Social entrepreneurship (SE) has been lately established as a potential strategy for the development of disadvantaged areas. However, in spite the fact that SE seems to be well suited to the crisis framework -especially the one in Greece nowadays- it is highly questionable if and how it can be implemented in rural mountainous areas where there is usually a low level of awareness and a number of weaknesses due to remoteness from the central governmental authorities. The present research purports to explore certain macro-level and contextual factors that stimulate or impede social entrepreneurship development and sustenance in the Municipality of Pyli, a mountainous area in Central Greece. It builds on a well-structured questionnaire using 1-5 Likert scale for the majority of the questions. The data were recorded, processed and analyzed via the statistical package SPSSWIN ver 20.0 and the appropriate tests needed. Such areas are quite common in Europe and constitute the most vulnerable entrepreneurial environments especially in times of recession. Results confirm the view that average people are not aware of the benefits of social entrepreneurship and indicate that women are more likely to be attracted. The role of local and central governmental authorities seems to be of core importance while education and training appears to be needed in order to stimulate and sustain SE. The study contributes mainly empirically to SE literature while it may add to the relevant theory regarding facilitators and constraints within the environmental context.

**Keywords:** *Social Entrepreneurship, Social Entrepreneur, Mountainous areas, constraints, facilitators, environmental connect. AITHIKOS project*

## INTRODUCTION

Social entrepreneurship (SE) is a phenomenon that attracts the growing interest of practitioners, theorists and policy makers since it may offer solutions to socio-economic, environmental as well as cultural problems (e.g. Chell et al., 2016; Seelos, and Mair, 2005). Although it became popular due its non-profit and co-operative nature, today it is more known as the process of using market-based methods in order to address social problems (Grimes et al., 2013). Therefore, its principal focus seems to be its ability to address social needs, create social value and stimulate social change by generating jobs and permitting the creation or acquisition of goods and services (Borgaza et al., 2011). Theoretically, such models might be embraced by people to function and to be supported to work effectively. Especially when economies lie within recession, these types of entrepreneurship form a vehicle to “provide ready solutions to economic woes” (Chell, 2007).

A stream of SE literature focuses on the environmental context that may enhance or hinder the development of social entrepreneurship. This may regard political, social, economic, technological and cultural factors which, in turn, may be local, regional or national. Environmental factors constitute a quite extensive issue for general entrepreneurship research; however, relevant theoretical and empirical research appears to be rather scarce in the case of social entrepreneurship (Urbano et al., 2010).

The present research purports to shed light into this specific area of interest; i.e. to highlight factors that may stimulate social entrepreneurship and spot those that may put SE efforts in danger, in the very specific case of a mountainous area. Such areas are quite common in Europe and constitute the most vulnerable entrepreneurial environments especially in times of recession. The study contributes mainly empirically to SE literature while it may add to the relevant theory regarding facilitators and constraints within the environmental context.

The next section of this work attempts a short description of relevant theoretical considerations on social entrepreneurship; a brief reference in categories and criteria will establish the theoretical background of the research. The empirical part will outline the perceptions and views regarding constraints and facilitators of social entrepreneurship in a specific Greek mountainous area in Greece (Pyli, Region of Thessaly) within the current and long-lasting crisis framework. Statistical data will be discussed in order to produce useful insights about the evaluation of factors regarding the phenomenon under investigation. The concluding section includes implications for future research, limitations and some policy recommendations.

## LITERATURE REVIEW

Social entrepreneurship appears to confuse people even after many decades. Trexler (2008) had stated that it is a “simple term with a complex range of meanings”; his saying is still very popular among both theorists and practitioners. So far, it appears that research has focused on defining the phenomenon, set it apart from regular entrepreneurship (e.g. Arend, 2013; Mair and Marti’ 2006, Zahra et al., 2009) or add criteria such as the role of innovation (e.g. Mair and Marti’ 2006). On the other hand, empirical efforts are still scarce (Yiu et al., 2014) with case studies to dominate the empirical research (a review in Short et al., 2009). Furthermore, the empirical efforts focus mainly on SE outcomes while it appears that there is scarce empirical analysis on the individual drivers, pros and contras of the antecedents of social entrepreneurship (Lepoutre et al., 2013).

Definitions of social entrepreneurship have evolved over the years. Back in 1998, Dees described the “ideal social entrepreneur” as the change agent in the social sector with a mission to create and sustain social value by engaging innovation in the pursuit of new opportunities. With this definition, the SE concept turned from nonprofit and volunteering organizations to the pursuit of entrepreneurial activities with social goals (e.g. Miller et al., 2012). After an extensive review of SE definitions, Zahra et al. (2009) defined SE as *the activities and processes undertaken to discover, define, and exploit opportunities in order to enhance social wealth by creating new ventures or managing existing organizations in an innovative manner*. The definition allows for a wide are of social entrepreneurial action. Actually, according to Lepoutre et al. (2013), there are three main social entrepreneurship categories: for profit, hybrid and NGOs. Hybrid enterprises combine both market-based and social logics and for-profit social enterprises exhibit high attention to social and environmental objectives. NGOs may be the traditional ones or a new type that combines their social mission with an innovative approach in achieving their goals.

In all cases, social entrepreneurs interact continuously with the context “in which they and their activities are embedded’ (Mair and Marti’ 2006, p. 40). Social entrepreneurship has not evolved in a vacuum, but rather within a complex framework of political, economic, and social changes occurring at the global and local levels (Harding 2006; Urban, 2013). Therefore, it appears that the environment plays a significant role both in the decision to start a social enterprise as well as its sustenance (Urban, 2013). Within the entrepreneurship literature in general, macro-environment analysis is considered mandatory for “understanding market growth or decline, business position, potential and direction for operations” (Kotler, 1998). The identification of the several political, socio-economic and technological factors (Porter’s PEST analysis) and their impact on the business can clarify opportunities and support the creation of strategic plans. In the same line, this analysis regards the institutional framework of a society which comprises the fundamental political, social, and legal

ground rules that establish the basis for strategic entrepreneurial choices (North, 1990). Accordingly, the investigation of the environmental context of specific areas may define, create or set limits to SE opportunities, affecting the scope, width and speed of the creation and development of social enterprises.

Within the SE literature and the role of the environment, Urbano et al (2010) have studied the impact of the institutional environment on SE in Catalonia, Spain using a case study methodology. Urban (2013) explored social entrepreneurship within the emerging economy in South Africa in relation to three types of context (following Busenitz, Gomez, and Spencer, 2000): the regulatory environment which refers to the formally codified, enacted, and enforced structure of laws in a community, society, or nation; the normative dimension which determines the degree to which agents embrace creative entrepreneurial activity; and the cognitive dimension that reflects the knowledge and skills of potential entrepreneurs. The author concluded that favorable perceptions of the regulatory and normative dimensions are essential to increase social business practices. Griffiths et al., (2013) investigate the macro-level influences and factors that can stimulate or impede the emergence of social entrepreneurship.

A small stream of research has also focused on the role of national contexts and formal institutions in SE (Estrin, Mickiewicz, & Stephan, 2013; Zahra, Gedajlovic, Neubaum, & Shulman, 2009). As used here, the institutional configuration perspective recognizes the significant role of formal and informal institutions; this view has been discussed in extant research but has rarely been empirically tested. Stephan et al. (2015) consider that institutions may influence individual behavior, both as stimulants of motivation.

## THE RESEARCH OBJECTIVE

Hence, based on the underlying ideas of the role and impact of the environment in fostering social entrepreneurship, the present study tries to outline the perceptions and views regarding constraints and facilitators of social entrepreneurship in a specific Greek mountainous area in Greece (Pyli, Region of Thessaly) within the current and long-lasting crisis framework.

Despite the importance of social entrepreneurship, it is still questionable whether the phenomenon has reached individuals mainly in remote and problematic areas. Are the average people aware of social entrepreneurship? Are they attracted by the SE alternative? What are the worst barriers to overcome? What could facilitate the creation of a social enterprise? What do people in disadvantaged areas need to start a social business? What are the major initiatives the State or Regional authorities should implement to create a promising environment for the efficient development of social entrepreneurship?

The research purports to offer insight on the nature of some dimensions of the institutional environment and its potential influence on social entrepreneurship, in terms of Greece's current socio-economic milieu. SE constraints and facilitators may delineate the right canvas enhancing the 'can-do' of potential social entrepreneurs in disadvantaged areas like the mountainous area of the Municipality of Pyli in Greece and changing the common belief that governments or big multinationals are the only job creators in such areas while self-employment cannot support sustainable entrepreneurship in a small market heavily hit by long-lasting socio-economic crisis.

## METHODOLOGY

The research followed the quantitative research approach under the positivistic research philosophy. Research was conducted in 2016 i.e. the seventh year of the severe socio-economic crisis. The area of investigation hosts around 300 enterprises as registered by the relevant authorities. The sample was chosen to include respondents of different background. In order to collect the necessary data, a structured questionnaire was prepared and random sampling was engaged. Questions are short, precise and easy to be understood by the majority of respondents. Likert scale was used for the majority of the questions.

At the beginning of the research, the researchers performed content validity of the questionnaire; this regarded an extensive literature review and several conversations with experts on the social entrepreneurship issue. A pilot research included a sample of 10 respondents. It actually led to gaps and needs for further specification of the questions. Thus, the final questionnaire was improved (Dillman, 2000).

The research was conducted by skilled researchers who addressed the entrepreneurs or executive members of the firms by personal face-to-face interviews. The questionnaire consisted by three groups and a total of 28 questions. The first group consisted of eight questions regarding the level of familiarization and information of respondents regarding the concepts of social economy and social entrepreneurship. The second group of seven questions investigated the factors that impact development and existence of social entrepreneurship in the mountainous area of Pyli. The third group of questions offered information about the respondents' profile such as age, sex, educational level, type of business and profession, income etc. This profile is presented in Table 1.

The data were recorded, processed and analyzed via the statistical package SPSSWIN ver 20.0 and the appropriate tests for frequency (Frequencies), descriptive statistics (Descriptives), variable comparison analysis (Crosstabs), Factor Analysis and Correlation analysis (Person correlation) were conducted, in order to derive critical conclusions in regard of the issue under investigation.

## THE AREA UNDER INVESTIGATION

This paper reports a quantitative research in the Municipality of Pyli, at Trikala Prefecture in the Region of Thessaly, Greece. Municipality of Pyli lies on a "geographical zone" in the southwestern part of Trikala Prefecture. The area includes highlands and lowlands (dynamic) local districts, according to Directive 75/268/EEC. In total, the area includes 43 out of 146 local and community districts of Trikala Prefecture, while 33 of them are characterized as highlands and 10 are characterized as dynamic (lowlands).

According to the data of the 2001 and 2011 census of the Hellenic Statistical Service (EL.STAT), a depopulation of the area by 10.55% is observed over the last decade. The high dependency ratio (0.61) is considered to be evidence of unsatisfactory economic development perspective in the area. Furthermore, in regard of the ageing index in the area of 2001, the ratio is 1.65 (165 elderly for every 100 children) while the economically active population in 2001 is amounted to be 5.880 people, with 5.290 employed people (percentage 89.97%) and 590 unemployed people (percentage 10.03%). According to the data of EL.STAT., the percentage of the unemployed people by 18.17% and 34.17% in the last 10 and 20 years respectively.

Sex	Percentage	Studies	Percentage	Profession	Percentage
Male	69.7%	Postgraduate	4.7%	Civil Servant	37.5%
Female	30.3%	Bachelor	34.4%	Forest-worker	28.1%
Age	Percentage	IEK	Percentage	Freelancer	Percentage
21-40 years	35.4%	Secondary school	35.9%	Stock-breeded	7.8%
41-60 years	58.5%	Primary School	17.2%	Unemployed	6.3%
>60 years	6.2%			Farmer	3.1%
Income (€/year)	Percentage	Population of place of residence (persons)	Percentage	Private Employee	Percentage
<5,000 €	33.9%	<100	21.9%	Entrepreneurs	1.6%
5-10,000 €	27.4%	101-500	20.3%	Housekeeping	1.6%
10-15,000 €	21.0%	501-1,000	14.1%		
15-20,000 €	12.9%	1,000-2,000	4.7%		
>20,000 €	4,8%	2,000-5,000	12.5%		
		>5,000	26.6%		

Table 1: The profile of the respondents in the mountainous area of Pyli

Local economy and employment are mainly based in agriculture and its interdependence with the livestock production in the mountainous areas of the region, by creating a strong relationship for the productive sector of local economy. Forest exploitation in the area is limited to the production of forest products, especially timber and forage production. The manufacturing activity in the area focuses on the exploitation, processing and the utilization of the products of the primary sector, mainly with the production of dairy and wood-furniture products. There are a few small enterprises in the area, most of which are family enterprises. Because of their small size, the enterprises cannot achieve economies of scale which would make their products competitive not only among products from countries with low labor costs, but also among products from developed countries.

Tertiary sector constitutes the 43.8% of the employment in the Municipality of Pyli. There is a significant increase in tourist accommodation units in the last few years in the study area. Since 1992, there has been an increase (about 60%) in tourist accommodation units in the area.

## RESULTS

The results indicate that the majority of the residents of the Pyli area are rather unfamiliar with the concepts of social entrepreneurship and social economy (Papadopoulos et al., 2016). However, the 96.9% of the respondents stated at the end of the interview that the issues got their interest. More precisely, a 44.6% stated that social enterprises could definitely support the effort to confront the problems caused by the severe socio-economic crisis. The same percentage indicated their will to participate in a social enterprise targeting social benefit at least for the local community. Regarding the gender, it is quite interesting that all females were positive although somewhat hesitant in participating in the creation of a social enterprise. Consequently, the negative answers belonged only to males. The female predominance is in line with relevant literature (e.g Haugh, 2005). According to Levie and Hart (2011), child-rearing duties increase the awareness of women to pressing social issues in the community.

Age appeared to play its role as well; crosstabs correlation indicated a statistically significant relationship between the intention to participate in a social enterprise and age (Cramer's  $V=0.301$  for a significance level  $>95\%$  Approx. Sig= 0.019). Older respondents were keener to participate. This is also in line with literature on entrepreneurship in general and social entrepreneurship in particular. Levie et al. (2006) related the tendency to SE in older ages, while they claim that middle-agers tend more to become active entrepreneurs than turn to social entrepreneurship. In the same vein, according to Ladeira et al.,(2013), in Israel 58% of the SE founders were women, and a 90% were over 40 years of age.

On the other hand, it appeared that neither the educational level nor the family income affected this intention of the surveyed sample. However, this is not questionable, since there is no consensus in literature so far in regard of these two parameters. For instance, according to GEM (2004), the social entrepreneur is someone who “is older, usually a woman, with high levels of education and income” while in Denmark those involved in social entrepreneurship are of higher incomes and levels of education GEM (2009); on the contrary, Yiu et al. (2014) claim that lower educational background spur agents to engage in more social entrepreneurial activities.

The present paper focuses on the perceptions of the respondents regarding the environmental context; i.e. the political-structural, economic, social, and cultural trends that might influence the development of social entrepreneurship in their area.

Accordingly, bureaucracy has been rated as the most significant constrain in regard of the creation of a new enterprise as well as during its operation especially under the quite novel and unknown to public servants form of social entrepreneurship (1.64). The inadequate education regarding social entrepreneurship and entrepreneurial skills in general for the locals was rated as the second barrier (1.67), while the rather high production costs (1.73) seemed to be a further constraint of the development of social entrepreneurship (Table 2).

Barriers	Mean	Std. Deviation
Bureaucracy	1.64	1.07
Inadequate education regarding social entrepreneurship and entrepreneurial skills in general	1.67	1.19
High production costs	1.73	0.99
Lack of links among the institutions and enterprises of the area	1.95	1.03
Severe environmental legislation	1.98	1.02
Small size of enterprises	2.00	1.10
Weaknesses in the organization and operation of cooperative associations	2.10	1.10
Low-level technical and organizational support of producers	2.15	1.30
Inability to exploit the opportunities due to the various subsidy projects	2.21	1.09
Inability of existing enterprises to adapt to the new market conditions	2.23	1.09
Problems due to the exclusion of certain population groups of mountainous areas in regards of entrepreneurial opportunities	2.29	1.14
A significant number of non-patented or protected products	2.31	1.24
Low level of competitiveness and use of the area's competitive advantages	2.31	1.14
Inadequate supply of expertise, relevant education / training and skills	2.31	1.40
Geographical exclusion	2.45	1.37
Introversion and inability to form extrovert strategies	2.66	1.31
Significant competition from other relevant business in Greece	2.92	1.18

Table 2: *Barriers of social entrepreneurship development in the mountainous area of Pyli (Likert scale: 1-5; 1= very important)*



The constraints that are presented in Table 2 are correlated; actually, the relevant analysis using the Pearson correlation coefficient (Pcc) indicated the following positive or negative relations:

- Bureaucracy and all kind of administrative difficulties that appear when agents try to create or run a business seem to affect to a significant level:
  - a) the ability of the businesses to adapt to the new market trends and demands which are changing very fast and in unexpected ways (Pcc = 0.444 for significant level=0.01);
  - b) the level of technical and organizational support of the business agents since they consume their time and money in non-production bureaucratic processes (Pcc = 0.383 for significant level=0.01);
  - c) in deepening the gap between the entrepreneurial world and the institutions at local or national level due to the increase of mis-trust and even negative feelings for the public sector (Pcc = 0.381 for significant level=0.01); and
  - d) the maintenance of inadequate expert knowledge, training and development of skills due to the need to focus on their every-day practical problems and the increasing mistrust in relevant offers by the state or state-supported institutes (Pcc = 0.361 for significant level=0.01).
- The difficulty to confront the competition of similar business at national level seems to be due to:
  - a) inadequate expert knowledge, training and development of skills (Pcc = 0.264 for significant level=0.05), and
  - b) the local introversion and the inability to form satisfactory and efficient extrovert strategies (Pcc = 0.259 for significant level=0.05) which in turn seems to enhance the inability of the businesses a) to adapt to the new market trends and demands (Pcc = 0.501 for significant level=0.01) and b) to exploit the various subsidy projects in Greece (Pcc = 0.501 for significant level=0.01).
- The weaknesses in the organization and operation of the co-operative associations create significant problems regarding a) the exclusion of certain population groups of mountainous areas in regard of entrepreneurial opportunities (Pcc = 0.477 for significant level=0.01) and b) the inability of the businesses to adapt to the new market trends and demands (Pcc = 0.369 for significant level=0.01).
- The low-level technical and organizational support of producers appears to affect a) the level of competition and the exploitation of the physical and other competitive advantages of the area (Pcc = 0.488 for significant level=0.01) and b) the ability of the enterprises to co-operate with local and national institutes (Pcc = 0.469 for significant level=0.01).

Reflecting the hesitation of the respondents that were in favor of the development of social entrepreneurship but also conscious of the significant constraints of the environmental context as evident above, Figure 1 presents the major areas of SE support according to the results. Subsidies of

the initial business plans seem to be the most important issue (1.70) indicating both the lack of investment funds within the crisis framework as well as their familiarization with the EU or State support in former entrepreneurial undertakings; b) the creation of specific funding mechanisms which should focus on SE (1.73) indicating a wish and tendency for continuation of the SE phenomenon in a crisis-hit nation; c) the development of collaborations at local level (1.80); d) education / training of public servants regarding social economy and entrepreneurship (1.81) and e) the counseling support by Academia and other expertise (1.82), (Likert scale 1-5, 1= very important).

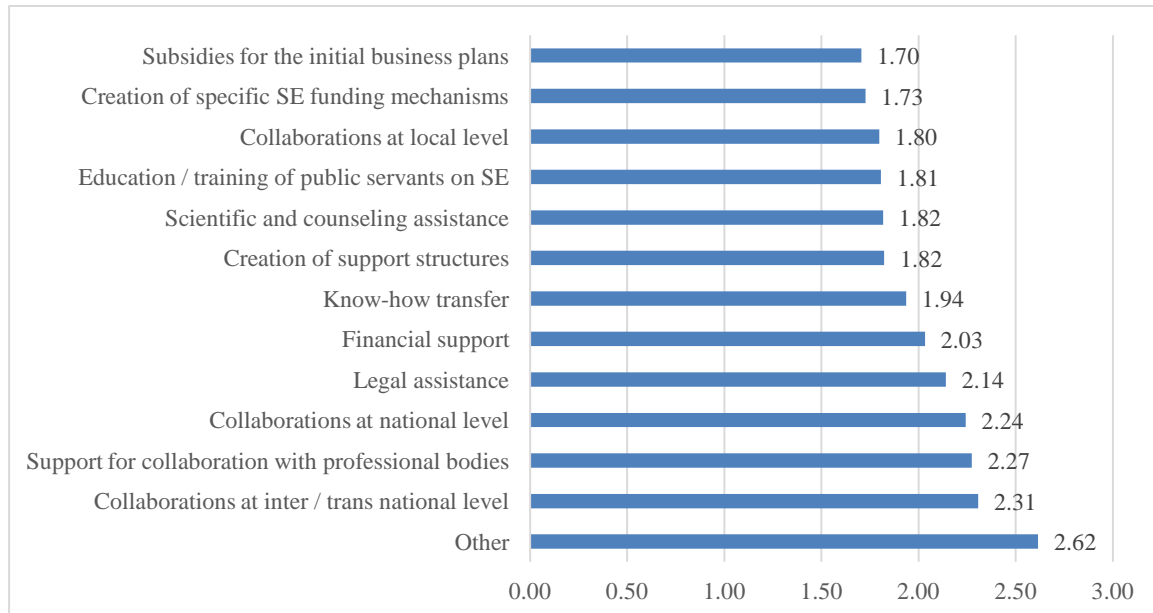


Figure 1: Major areas for the support of social entrepreneurship development in the mountainous area of Pyli (Likert scale: 1-5; 1= very important)

In regard of the socio-cultural level of the environmental context for the development of social entrepreneurship, education and training appear to be of significant importance. More specifically, 87.9% of the respondents state that further education on production technologies (wood and food processing, farming, livestock etc.) related with the main business activities should be vital for SE development. Besides this type of knowledge, training is needed in regard of SE funding mechanisms (84.4%); entrepreneurship and innovation principles in general (83.9%) and business planning processes (79.7%). A special interest in renewable energy sources brings this educational need in the fifth position (78.7) (Table 3).

Rates of Subjects education	Means	(1) Extremely important	(2) Very important	(3) Quite important	(4) Somewhat important	(4) Unimportant	(1)+(2)
Production technologies	1.43	75.9	12.1	6.9	3.4	1.7	87.9
SE funding mechanisms	1.56	70.3	14.1	7.8	4.7	3.1	84.4
Entrepreneurship and innovation principles	1.62	59.7	24.2	12.9	0.0	3.2	83.9
Business planning	1.72	57.8	21.9	14.1	3.1	3.1	79.7
Renewable energy sources	1.75	59.0	19.7	13.1	3.3	4.9	78.7
Protection and management of the natural environment	1.78	65.1	9.5	11.1	11.1	3.2	74.6
Institution framework for the SE creation and development	1.80	53.3	20.0	20.0	6.7		73.3
Product certification and patenting	1.82	52.5	21.3	21.3	1.6	3.3	73.8
Tourism and agro-tourism as SE	1.85	52.5	23.0	18.0		6.6	75.4
SE marketing	2.08	43.5	27.4	11.3	12.9	4.8	71.0
Circular economy issues	2.08	45.0	21.7	18.3	10.0	5.0	66.7
Development of co-operatives	2.31	36.1	21.3	21.3	18.0	3.3	57.4
Cultural issues	2.41	36.5	25.4	12.7	11.1	14.3	61.9
ICT application	2.79	29.5	19.7	14.8	14.8	21.3	49.2
Other	2.89	21.4	17.9	28.6	14.3	17.9	39.3

Table 3: Suggested subjects of education / training / counseling support in regard of SE development in the mountainous area of Pyli (Likert scale: 1-5; 1= extremely important)

According to the results, local self-government authorities can support the SE development in the area under research mainly by providing motives to locals to develop social entrepreneurship (1.56) and by promoting the concept in order to make it more familiar through seminars and workshops (1.76). Collaborations with neighboring municipalities and the regional authorities (1.90), the creation of incubators (1.97) and the development of a five-year business plan (1.98) could further facilitate SE development in the area regarding always the results analysis. (Table 4).

Cronbach's Alpha (= 0.906) indicates that the deterministic variables of the research constitute compact and reliable structures, able to contribute to the measurement of the agent to which they belong. The high communalities produced by the Factor Analysis indicating the amount of variance in each variable of the first column (Table 4) that is accounted for, indicate that all variables co-relate with some other agent. The Total Variance Explained of Factor Analysis indicates that the calculated eigenvalues are also quite high only for two groups that contain the factors of the first column in Table Innovation, Entrepreneurship and Digital Ecosystems

4. These two groups are then included in the analysis, since they actually explain a satisfactory 67.3% of the total variation (bigger than 50%; Siomkos and Vasilikopoulou 2005).

Furthermore, factor analysis indicated, after matrix rotation, that all ten variables of Table 4 appear in two groups; the first group regards the variables (2, 7, 3, 4, 8 and 1) and the second one the rest (9, 5, 10, 6). The first group reflects facilitating initiatives to support the preparation of SE creation while the second one to support the actual creation and sustenance of established social enterprises or a cluster of social businesses (Table 5).

The two groups actually explain the 77.6% of the total variation (Eigenvalues).

id	Facilitating Initiatives of Municipality	Mean	Std. Deviation
1.	SE creation motivational initiatives	1.56	1.07
2.	Workshops / seminars	1.76	1.07
3.	Cooperation with neighboring municipalities and the Regional Authorities	1.90	1.20
4.	Development of SE incubators	1.97	1.05
5.	Development of a five-year action plan for the local SE development	1.98	1.36
6.	Constant information on SE issues / creation of specific SE portal at the Municipality's webpage	2.02	1.32
7.	Co-operation with the central government	2.09	1.34
8.	Organization / participation in trade shows	2.15	1.29
9.	Promotion of networking / creation of SE clusters	2.26	1.30
10.	Organization of B2B meetings	2.28	1.14
11.	Other	2.50	1.27

Table 4: SE development facilitating initiatives for the local authorities (Likert scale: 1-5; 1= very important)

id	Facilitating Initiatives of Municipality	Component	
		1	2
1.	Workshops / seminars	.900	
2.	Co-operation with the central government	.859	
3.	Cooperation with neighboring municipalities and the Regional Authorities	.727	
4.	Development of SE incubators	.716	
5.	Organization / participation in trade shows	.677	
6.	SE creation motivational initiatives	.473	
7.	Promotion of networking / creation of SE clusters		.852
8.	Development of a five-year action plan for the local SE development		.828
9.	Organization of B2B meetings		.603
10.	Constant information on SE issues / creation of specific SE portal at the Municipality's webpage		.598

Table 5: Rotated Component Matrix of SE development facilitating initiatives for the local authorities

## DISCUSSION

After the global crisis in 2008, social problems are dominant in both developed and developing countries. Social entrepreneurship seems to be able to confront them by the generation of social value especially in highly disadvantaged areas. In this context, specific environmental factors that affect the emergence and implementation of social enterprises become of core importance; however they remain unexplored. This research tries to outline the perceptions and views regarding constraints and facilitators of social entrepreneurship in a specific Greek mountainous area in Greece (Pyli, Region of Thessaly) within the current and long-lasting crisis framework.

According to the findings, social entrepreneurship seems to be rather unknown to most Greeks while its nature and benefits are quite ambiguous. However, when explained, it seems to attract interest mainly among women.

A core conclusion of the research is that social entrepreneurship, similar to usual entrepreneurship, is driven by combinations of factors. Bureaucracy appears to be the core hindering factor for any entrepreneurial activity, social or not especially when combined with mistrust of the public sector and the estimations that the SE framework is a new area for the public decision-makers. The deep antipathy to bureaucracy constitutes one of the central critiques of the public sector been considered as source of unreasonable waste of time and money as well as a sample of inefficiency. It is also claimed to be responsible for the inability of Greek SMEs to follow the global market trends or become extrovert. Therefore, it appears that the elimination of unnecessary bureaucracy is a key concept in encouraging people to try social entrepreneurship.

One of the key external factors in order to develop the necessary infrastructure to support social is according to the findings, the emphasis on entrepreneurship education and training. This ranges from basic knowledge on entrepreneurial issues and skills' development to specific knowledge on SE funding mechanisms and business management. It is quite interesting that respondents are aware of weaknesses in their current businesses' basic knowledge. This is in line with relevant literature; for instance, Piasecki and Rogut (2004) suggest paying special attention to education and training provision besides market institutions and the banking system.

Such knowledge provision and training demands sufficient physical and social infrastructure as well as a certain quality level of local institutions. The weaknesses as highlighted by the research indicate that an efficient SE development in the mountainous area of Pyli demands significant policies and measures aimed at overcoming barriers to social enterprise development. Institutional development is unanimously central to the successful implementation of all these suggestions and should go hand in hand with greater local self- governance.

How can social entrepreneurship be encouraged in disadvantaged mountainous areas? According to the respondents, local authorities and communities together with the regional and state governance have to create and implement appropriate policy priorities in such regions emphasizing their applicability to the specific needs of the local economies. This issue highlights the importance of local development partnerships that include representatives of government, local authorities, agencies, professional associations and community organizations extending collaboration with neighboring areas as well. Indicative activities could be awareness campaigns to support the new SE phenomenon and to strengthen entrepreneurial culture and spirit as well as appropriate motivation initiating a long term learning process; for example, the EU's Leader+ programs or similar ones could extend to establish local action groups, raising awareness for SE development action and representing a strong „bottom-up“ community-based approach to SE development. In practical terms, support can also regard subsidy initiatives and relevant projects and the creation of specific funding mechanisms

The findings seem to provide strong implications for both practice and theory. From a practical point of view, agents aspiring to start a social enterprise should be well aware of the unstable institutional framework, the non-existent relevant legislation and the unfavorable conditions in Greece at least. A number of conflicting pressures and constraints may hinder even well-prepared business plans and aspirations.

The study also contributes to the provision of a potentially transferable set of policy principles that may be used to guide social entrepreneurship policy development in disadvantaged areas.

Public policy makers need to outline an appropriate institutional framework in order to encourage the development and support the sustenance of social entrepreneurship by developing and promoting positive SE models to influence social attitudes towards social entrepreneurship. They have to take into consideration that there is no SE background and therefore they have to curve the way to this new entrepreneurial mode; social entrepreneurship has to be portrayed as an alternative process explaining that it catalyzes soci-economic change and that it varies according to the different environments (Mair and Marti, 2006). The policy principles can be further elaborated to suit the local needs; for example, in cases of little or no entrepreneurial culture, emphasis may be given to links with educational institution and other advisers, while a separate part of policies could focus on institutions and self-government authorities' role. Indicatively, it is highly questionable whether people of these organizations are really aware of the benefits provided by social entrepreneurship or the ways to implement it and promote collective well-being serving the community. Moreover, the use of formal and informal collaborations and the creation of networks can facilitate financial support mechanisms, learning and training, extroversion and SE sustenance.

In terms of academic relevance, the study contributes adding to the SE theory in regard of the analysis of the impact of certain contextual variables and more precisely a number of constraints and facilitators. Social entrepreneurship cannot flourish in all environments; instead the existence of an enabling environment is quite critical. This means that there are certain preconditions to be fulfilled such as central authorities' commitment, elimination of bureaucratic obstacles, knowledge on entrepreneurship, development of collaborations, and active involvement of private and public institutions. Therefore, there are certain factors that shape specific social entrepreneurial goals, behaviors, and intentions. The study further adds to empirical research on social entrepreneurship.

## CONCLUSIONS

The present research purported to explore certain macro-level and contextual factors that stimulate or impede social entrepreneurship development and sustenance in the Municipality of Pyli, a mountainous area in Central Greece. Results confirmed the view that average people are not aware of the benefits of social entrepreneurship and indicated the core role of women in encouraging SE development in the area. The role of local and central governmental authorities seems to be of core importance in order to eliminate the negative impact of constraints such as bureaucracy and to foster institutional support for SE development. This denotes the significant role of active governments confirming former relevant theories. Education and training regarding entrepreneurship itself as well as more specific business subjects such as production technologies appears to be needed in order to stimulate and sustain SE. Furthermore, collaborations and networking enhance the possibility for success in SE efforts. The study contributes mainly empirically to SE literature in terms of policy making, while it may add to the relevant theory regarding facilitators and constraints within the environmental context.

The results of the research bear certain limitations. Firstly, the size of the sample and the lack of sample diversity are significant drawbacks; the field study was limited to only one geographically bounded sample limiting the generalizability of the findings. However, this choice increased the internal validity and provided the main contribution of the study highlighting the significance of bottom-up approach of every single area of interest when regarding social entrepreneurship and policy making. Furthermore, the questionnaire focused on very specific variables.

Researchers are welcomed to extend the questionnaire including the institutional and environmental context as offered in the general entrepreneurship literature. Further research could also attempt to replicate similar analyses in bigger samples, different geographic, sectoral and territorial contexts, exploring further the phenomenon of social entrepreneurship.

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# **LEADERSHIP AND INTERNATIONALIZATION IN FAMILY AND NON-FAMILY FIRMS' CROSS-BORDER MERGERS AND ACQUISITIONS FROM THE ARABIAN GULF**

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## **ABSTRACT**

The internationalization of family firms from economically developing regions has become an issue of increasing interest within strategic management. International expansion extends beyond a business phenomenon into a wider-ranging engagement with countries, societies and various collectivities. The family represents one such collectivity; when business and family intersect within an expansion imperative, complications can ensue, especially as family businesses transition from exclusively private ownership to listings on public exchanges and from management by the family to the involvement of outsiders. We explore leadership dynamics for family and non-family firms—in particular state-owned enterprises (SOEs) as well as publicly- and privately-held family businesses—expanding via cross-border acquisitions from the Arabian Gulf into multiple regions of the world. In a historically tribal and highly interconnected context, we draw on in-depth, ethnographic-style interview research, as well as supplementary archival evidence, to examine how leadership characteristics, intergenerational succession, ownership structure, and intercultural elements impact internationalization through cross-border acquisitions. Our findings indicate the intertwining of cultural heritage and tradition with modern business imperatives and the increasing penetration of non-Western firms into the global milieu. Each of the three types of firms examined demonstrates a different pattern of international expansion, with the FF-private remaining in general regional; the FF-public increasing in internationalization and also technological orientation concomitant with the public listing and involvement of outsiders; and the SOEs, including energy firms and sovereign wealth investment firms, achieving worldwide presence in reflection of the global nature of the extractive energy industry and the high-income resources of the region.

**Keywords:** *cross-border acquisitions; M&As; Arabian Gulf countries; leadership; family business; internationalization strategies; ethnography; state-owned enterprises; technology; economic diversification*

## INTRODUCTION

This paper addresses the research question, theory, methodology and analysis, and anticipated contributions and implications of our research into leadership and internationalization in a geographic and cultural milieu (Pukall and Calabrò, 2014; Cuervo-Cazurra *et al.*, 2015)—the Arabian Gulf—where the presence of family firms that are privately held, family firms that are publicly traded, and government entities makes the leadership, acquisitions and internationalization interplay intriguing to investigate. The Arabian Gulf M&A activity merits attention because the six economically and culturally interconnected countries of the region have been on rapid development trajectories due to continuing high demand for fossil fuel/ extractive energy resources. The region has both historically and in modern times served as a geographic and trade crossroads with prospective lessons for both earlier and later-industrialized—developed and developing—regions (Basco, 2013). The multicultural and resource-rich endowments of the region have facilitated rapid business globalization in a manner providing insights for the more established and developed Western and Asian economies, as well as the economically developing areas of the world such as in Southeast Asia, Latin America, North and Sub-Saharan Africa, and Eastern Europe. We examine the following research question: What are the influences of leadership and family business on patterns of internationalization from rapidly economically advancing regions of the world, as manifested in cross-border mergers and acquisitions from the Arabian Gulf? We note that although the Arabian Gulf countries do not meet all definitions of “emerging markets” or “developing economies,” our field research strongly revealed the self-perception among business executives that the region belongs in those categories—and the countries in the region meet various criteria for consideration, with the high per capita GDPs being a primary anomalous factor for strict inclusion.

## BACKGROUND AND LITERATURE

Leadership and family business have been separately and extensively studied for decades in various regions of the world [e.g.,] (Luo and Chung, 2005; Gómez-Mejía *et al.*, 2007; Nicholson, 2008), yet the emergence and impact of leadership in family businesses that are publicly-traded, internationalizing, and from economically developing regions have been less explored. In the Arabian Gulf, there exists a high degree of family business and private ownership of firms, dynastic wealth accumulation and inheritance, and government ownership of oil and other nationally significant assets, as well as

interconnections into family firms. In more recent years, many traditionally family or government-owned firms have been having public offerings and experiencing more diffuse ownership (Schulze *et al.*, 2003), while expanding internationally (Cuervo-Cazurra *et al.*, 2015). At the same time, the family and cultural influences in the historically tribal societies of the Gulf remain strong. Given the backdrop of family, national and cultural factors, we explore how the top corporate leadership of Arabian Gulf firms can affect the patterns of internationalization and expansion of those firms into other areas of the world (Casillas and Acedo, 2005; Chari, 2013). Specifically we examine influences of leadership and family business on internationalization from companies in countries of the Gulf Cooperation Council (GCC)—the six economically and culturally affiliated nations of the Arabian Gulf (Bahrain, Kuwait, Oman, Qatar, Saudi Arabia and United Arab Emirates)—as seen in cross-border acquisitions into other areas of the world. We use the phrases Gulf, Arabian Gulf and GCC interchangeably in the paper, as in the region itself. We further note that Yemen, while geographically in the Gulf, is not a member nation of the GCC and is not included in the vernacular meaning of “Gulf” or “Arabian Gulf” in the region.

The analysis of key issues of leadership and internationalization in acquisitions starts from the basic premise of a close interrelationship between top leadership and firm strategy (Miller *et al.*, 2010). Who the leaders are exerts a tremendous influence and impact on the selection and implementation of strategies by the firm. More precisely, leadership style has been a construct of interest in strategic management research in contexts including innovation [e.g.,](Kang *et al.*, 2015) and entrepreneurship (Simsek *et al.*, 2015), corporate social responsibility [e.g.,](Waldman *et al.*, 2006; Maak *et al.*, 2016) and overall in strategy and organizational performance (Nahavandi and Malekzadeh, 1993). Various aspects of leadership characteristics and behavior have been found to be influential in acquisition integration (Lind and Stevens, 2004; Kavanagh and Ashkanasy, 2006; Nemanich and Keller, 2007) and postacquisition satisfaction (Covin *et al.*, 1997) as well.

In contrast to the previous research, which has emphasized the post-deal implementation/ integration/ evaluation phase of the impact of leadership style (Schweizer and Patzelt, 2012; Zhang *et al.*, 2015), we concentrate on leadership style in the making of the deal—specifically with respect to the antecedent strategic elements of motivation, selection and realization of the acquisition as a legal instrument joining two companies. The cultural and operational integration and postacquisition satisfaction dimensions could become part of an extended model, but in the present paper we focus on the earlier phases in making the deal. We view the motivation, selection, and realization of the acquisitions as pivotal in the expansion imperatives specifically for cross-border strategizing drawing on the linguistically, culturally and experientially multimodal leadership backgrounds that enable these

international acquisitions to be conceived and negotiated. Hence we ground our research more fundamentally in the aforementioned perspective of the close connections between top leadership and firm strategy (Child, 1972; Ibrahim and Kelly, 1986; Bertrand and Schoar, 2003)—leading into choosing and closing acquisitions for purposes of a corporate internationalization reflecting national economic diversification needs and personal educational and career experiences—than in the particulars of leadership style and postacquisition integration. For instance, in this vein Waldman (2004) applied upper echelons theory in examining the impact of charismatic leadership in the formulation of strategic change and the assessment of firm performance.

We therefore return to the premise that most top business leaders in the GCC are highly internationalized in experience and education, which suggests and reinforces their outward-looking strategies of internationalization for their firms. An interest in internationalization implies the need for a modality to achieve this objective. Cross-border mergers and acquisitions have been one of the most often used of the six typically recognized methods of internationalization. The frequency of cross-border acquisitions belies their difficulties and overall low success rate in lasting terms. Previous research has found that cross-border mergers and acquisitions can be just as risky—if not riskier than—domestic acquisitions. The overall success rate would typically be 50% or less in terms of measurable impact on shareholder value and outcome measures such as operating cash flows, revenues, profitability and even more impressionistic signs of success with respect to firm reputation and brand impact. In addition, there are factors such as market penetration and global reach, which could appear to be enhancements and therefore markers of success from cross-border acquisitions; but these market reach indicators are not necessarily translating into increased profitability and shareholder value.

Moreover, it is essential to take into account the specific countries and varying levels of national economic development involved in the transactions. The flow of foreign direct investment (FDI) has typically been from developed to developed countries—although there has increasingly been FDI from developing to developed economies or between developing regions of the world (Bhaumik *et al.*, 2010; Dau *et al.*, 2015). It is in these latter categories—from developing to developed economies or between developing economies (Filatotchev *et al.*, 2007)—the present study focuses, with particular reference to transactions emanating from the Arabian Gulf. Family business incidence and influence are especially strong within this region, where the countries of the Gulf have emerged from traditionally tribal societies promoting enduring interconnections among families for purposes of business, marriage and overall life interactions. The business leadership from these regions has roots in this family and tribal-based society, while having also increasingly bilingual and bicultural capabilities and international orientations. The economic resources, family backgrounds, and

multicultural competencies have accelerated the international expansion of Arabian Gulf firms through cross-border mergers and acquisitions.

Cross-border acquisitions benefit firms via the immediate enhancement of firm size and presence in multiple countries of the world—especially attractive for companies with fast-paced agendas and deep pockets. International business scholars have extended the concept of resource allocation opportunities to include a geographic diversification perspective (Lu and Beamish, 2004). This view recognizes that an extra benefit arises from gaining access to acquired firms with resources in varied geographic locations, with diverse tangible and intangible assets (Seth *et al.*, 2002). Acquisitions represent a prime means of internationalization, in part because they are typically speedier than greenfields (organic growth) and more sophisticated and far-reaching than for instance exporting, licensing, franchising or partnerships. Acquisitions provide the benefits of ownership and control. As previously mentioned, they also carry considerable risk, commensurate to or sometimes outstripping the probable level of rewards. There is a great bulk of empirical studies measuring performance of cross-border acquisitions that show ambiguous results (Moeller and Schlingemann, 2005). Such ambiguity suggests that the relationship between the international nature of the deal and post-acquisition performance is more complex than simply a matter of sovereign and cultural boundaries (Hennart, 2009). The enactment and performance of international acquisitions hence merit a more fine-grained analysis. In this paper we contend that knowing how to evaluate the risks and attain the rewards of cross-border purchasing of firms becomes a fundamental leadership challenge in internationalization through acquisitions. Indeed the GCC region provides an excellent location for strategic analysis of leadership and internationalization (Banalieva and Eddleston, 2011), as the economies and companies of the Arabian Gulf have very rapidly advanced within the past decades from local to regional to global in orientation. We investigate the complexities of leadership dynamics—especially in the comparison of various family and non-family types of firms—in internationalization through acquisitions.

## METHODS

In order to get a handle on the scope, occurrence and dynamics of cross-border acquisitions in the enactment of expansion and internationalization emanating from the Arabian Gulf, we have developed a twofold research approach. First, one of the authors has been extensively involved in field research among business leaders and firms of the Arabian Gulf region. Within the past three years, data have been collected through ethnographic interviews and observations within firms of the GCC. Observational data, according to a research protocol, have been collected within over 10 firms and in-depth interviews conducted with over 50 business leaders and executives coming in particular

from the second-most oil-producing country of the region, Kuwait. Because of the originally tribal and presently economic interrelatedness, these interviews have provided rich insights into more nuanced aspects of business conduct and internationalization from the region into both developing and developed areas of the world. In addition to the field research data, we have obtained a customized dataset based on the Thomson Reuters SDC Platinum database. SDC Platinum contains records of both domestic and international acquisitions and related financial transactions (such as equity and debt capital market deals, public financings, syndicated loans, joint ventures, spinoffs and repurchases) for over 70 countries and close to 1 million M&A transactions, beginning from the 1970s, with hundreds of descriptors at the industry, firm and transaction level. We initially captured all acquisitions in the database made by firms from any of the six countries of the Arabian Gulf from 1981-2015. This initial data pull resulted in 4110 transactions. Eliminating government and private ownership narrowed the dataset to 165 transactions, involving publicly-traded acquiring firms. We are focusing on the publicly traded firms—for the quantitative dataset and imminent hypothesis development and analysis—because they include the vanguard of the third generation of family firms, as well as some of the leading MNCs in the region. In addition, the publicly traded firms can be researched with secondary data sources, supplementing the data on firms with varying ownership structures from the field research. Moreover, some of the private and government transactions that surfaced within the field research can be corroborated within the SDC Platinum dataset, apart from the 165 focal deals. Both the field research and the secondary data reveal that even traditionally privately-held family business are moving toward partial or full public equity structures, in order to facilitate their international expansion, access to capital markets and global brand recognition.

## FINDINGS

In the first phase of the study, which has involved field research in companies of the Arabian Gulf, we have obtained data from in-depth interviews and ethnographic observations within three types of firms: family firms that are privately held (FF-private), family firms that are publicly traded (but with majority ownership or control from within the family) (FF-public), and government firms, also known as state-owned enterprises (SOEs). Two types of managers have been interviewed: family and non-family members. Presently there have been 53 interviews (20 family managers and 33 non-family managers) conducted in 10 firms (5 FF-private, 2 FF-public, and 3 SOEs). The firms are in the industries of financial services, brick-and-mortar and online retail, logistics and warehousing, food services, and energy). We elected to use ethnographic research as our starting point because of the novelty of the research investigation into this topic for this part of the world and to obtain deeper insights to enrich our understanding of intertwined cultural, business, family, economic and

developmental issues. The companies all have English as the exclusive or one of the central business languages; all interviews were conducted in English by one of the authors, a native-English speaker accompanied by a bilingual native-Arabic speaker for assistance with linguistic and cultural nuances, involving for instance translation of very occasional Arabic aphorisms into English and cultural and historical contextualization of certain remarks. The level of English conversational fluency among the top managers was extremely high, as all had received one or more university or postgraduate degrees from abroad. In addition, some had received their entire primary or secondary schooling in English-language or bilingual English-Arabic international schools in the Arabian Gulf or abroad.

From the ethnographic analysis we have furthermore identified salient family firm leadership decisions, which can be labeled as “to join or not to join the family business, to buy or not to buy assets available for privatization, to lead or not to lead the privatized business, to expand from regional to global or not, and to rebrand in a global marketing strategy or not.” These decision areas have the potential for conflict and also for resolution within the expanding family firm. Within the family, there can be sharing of responsibilities as well as separation of interests. Agreement or disagreement around issues such as stock allocations, management positions or succession plans can create or destroy organizational esprit de corps. The complex interplay among the leader, family, firm, transaction and national dimensions suggests the value of further investigation in the upcoming quantitative (to be combined with the qualitative) analysis.

These understandings have led us to make sense of this complexity with an aim of identifying patterns. To achieve this end we propose a two-dimensional matrix based on ownership structure and family. We have identified three categories already within the matrix: FF-private can be held by several interrelated families, typically from within the same tribe; FF-public again can have governance and ownership from within interrelated family structures and also partial ownership from government-owned sovereign funds, as well as more diffuse public ownership; and SOE can have managers who are appointed based at least partially on kinship ties with government ministers. Hence, the public, private and government sectors function in close interconnection. Here is an example of the ownership structure of a FF-public from the field research sample: all board members, the chairman, the CEO and two of the five SVPs are members of the same extended family within a particular tribe, and that family collectively owns 30% of the stock; the government pension fund holds 10%, one major bank in the GCC 21% and one private investment company in the GCC 7% of the stock; and of the 62% of the free float not owned by the immediate family (30% as mentioned above), an undetermined amount is owned by interrelated families within the tribe and the remainder of the shares are unspecified dispersed global ownership as available through shares



traded on regional exchanges. Some of the shareholding amounts are publicly disclosed, while other figures have been obtained and corroborated from multiple sources within the field research.

Various leadership and internationalization-through-acquisition patterns exist within the three types of firms of the field research.

*FF-Private:* The FF-private firms have very strong regional expansion within most or all of the six countries of the GCC and into the larger Middle East North Africa (MENA) countries as well. Acquisitions tend to be relatively small-scale, horizontal, regional, cash funded and by agreement among cooperating families or family members. The leadership tends to be first or second-generation family members, who are often the first generation of university graduates within their families. These leaders have strong technological, entrepreneurial and international orientations based on their upbringings, education and their use of first instance social media, in both English and Arabic, for marketing and distributing their products and services.

*FF-Public:* The FF-public firms are third-generation family businesses that have branched into other areas of the world—typically Europe, North America, Southeast Asia, Sub-Saharan Africa and sometimes East Asia—and have undertaken initial public offerings on regional exchanges to increase their access to global capital markets and to ease financial arrangements among an increasing number of descendants of the original founders. Acquisitions for the FF-public are farther-reaching, venturing into additional regions of the world, still predominantly cash funded, but now requiring and relying on agreements and coordination among family and non-family, as the newly acquired firms come from countries and cultural frameworks outside the scope of the GCC/MENA, and can be horizontal or vertical or for other investment purposes. The ownership tends to remain strongly family-influenced or controlled. The top corporate leadership consists still of some family members—typically the more business- and intellectually-inclined members of the family, with undergraduate and MBA degrees from English-speaking countries— increasingly collaborating with non-family management. Although men dominate the top management ranks, women family and non-family managers are present as well. In the third-generation FF-private firms studied, the public offering option has been increasingly considered.

In addition, we have determined in our research that the FF-public have displaying an especially intensive and increased technological orientation. This increase in technological knowledge and capabilities has been fostered by the acquisition of innovation—whether in full or partial-stakes deals to obtain access to emergent technologies and business as well as technical innovations—and also by the encouragement of an internal inventiveness and entrepreneurial mindset. The cultural dynamics here are then not only issues of overall national and predominant organizational cultures but of creating and sustaining cultures of innovation within organizations. These innovation islets could be

separately run (non-integrated) acquisitions, greenfield ventures with a separate management structure and brand identity, or board membership in a technology and innovation-oriented firm, where the investment stake could be later raised. The technological capabilities facilitate global communications and interventions and even fundamental paradigm shifts to new, platform-based and asset-reduced business models for leveraging capacity. Longstanding cultural traditions have coexisted with and indeed complemented new-world, cutting-edge forays, resulting in an intriguing blend of heritage and innovation.

*SOEs:* The SOEs in the field research sample have been either sovereign wealth/ investment/ pension funds or energy industry companies. The top managers interviewed have been Western-educated members of elite, interconnected families. The internationalization has been global—either because of the wide-ranging nature of investments of the pension funds or because of the extensive worldwide reliance on petroleum products—and has been a matter of expediency and also overwhelmingly of national interest. Acquisitions by the SOEs are anywhere in the world as needed with a few observations: smaller in size than the acquiring firm (which will be a very large state-owned entity), purchased with cash for full or controlling interest—or entered into as part of a joint venture agreement for common goals—and in clear support of national sovereignty and national interests. For interest, an SOE oil company could acquire an upstream exploration company or a downstream refining or petrochemicals company, but not in any type of contested transaction or any type of transaction that could be perceived as a threat to national security. The parent company (the SOE) is controlling or cooperating with the acquired firm, and also constraining access by that firm into the parent. That is, post-acquisition integration will be very much controlled by the parent, with access and entry only on an as needed basis. The acquisitions will tend to be vertical or for investment purposes.

## CONTRIBUTIONS

This research enhances understanding of cross-border mergers and acquisitions, family business, and leadership dimensions particularly with respect to the Arabian Gulf. The SDC Platinum database—for establishing the dataset of acquisitions originating from the GCC—and the field research on business leadership in the region together examine the leader, family, firm, transaction and national dimensions. Our findings indicate the intertwining of cultural heritage and tradition with modern business imperatives and the increasing penetration of non-Western firms into the global milieu. Each of the three types of firms examined—privately-held family firms (FF-private), publicly-held family firms (FF-public), and SOEs—demonstrates a different pattern of international expansion, with the FF-private remaining in general regional; the FF-public experiencing an increase in internationalization

and also heightened technological orientation concomitant with the public listing and involvement of outsiders; and the SOEs, including energy firms and sovereign wealth investment firms, achieving worldwide presence in reflection of the global nature of the extractive energy industry and the high-wealth/high-income resources of the countries of the Arabian Gulf region. The expansion of the three types of firms suggests the centralization—tempered by moderate circulation—of leadership authority, whether in successfully transitioning family firms into the third generation and beyond or in developing state-owned firms with high returns, alongside the quest for economic diversification. These firms have additionally overcome the liability of foreignness [e.g.](Zaheer and Mosakowski, 1997; Johanson and Vahlne, 2009)—and what has also become known as a “liability of emergingness” (Held and Berg, 2015)—to successfully enter new markets abroad while strongly maintaining home country affiliations and cultural heritage identity.

The contributions from our present and ongoing research are primarily in the areas of family business, leadership and strategy interconnections; internationalization and expansion from rapidly developing, high-income economies; cultural and demographic aspects of the leadership of internationalization; intergenerational family business leadership succession and the transition from private or government into publicly traded ownership; cross-border acquisitions as a mechanism of internationalization with the attendant intercultural and postacquisition integration issues; and region of the world. We contribute in these areas and also to theoretical perspectives on firm ownership and forms of contracts between owners and managers. For instance, this research has implications for agency theory and the separation of ownership and control when the agents are third generation family members within an increasingly diverse corporate ownership structure and an organizational design including non-family management. The research has further implications for contests for corporate control and changes of control involving rapid expansion agendas funded by extensive financial resources. Moreover there are implications for theories of cultural quotient or cultural intelligence in that the internationalizing business leadership from developing regions often has the advantage in a cultural information asymmetry in their interactions with Western business leaders—in that the Gulf region business top business leaders have most often been educated abroad, know multiple languages, and can more easily converse and move within Western business settings than vice versa.

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## **FAMILY BUSINESS INNOVATION: PERFORMANCE ANALYSIS IN THE FOOD INGREDIENTS INDUSTRY. THE CASE KEMIN**

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### **ABSTRACT**

Kemin is a family business set up by Rolland and Mary Nelson in 1961 in Des Moines (Iowa). Its core business is the production of ingredients and nutritional solutions.

At the beginning, they had two product lines, an office in their family room and a manufacturing plant in an old wool barn. The founders, who are still active in the business today, have started by serving the animal food market with ingredients such as antioxidants, flavors and mold inhibitors.

From these humble beginnings, Kemin has grown to serve the needs of customers in the global feed and food industries as well as the health, nutrition and beauty markets.

Kemin is more than a supplier to their worldwide customers. It's a researcher, a resource, and a partner. Kemin is a company committed to innovation and technology. Through constant innovation it creates innovative products for different industries. There are many factors that lead the company to continuous investments in research and development.

Among these:

- Market trends
- Competition
- New types of consumers
- Company philosophy (constant innovation)
- The need to improve

Innovation in Family Business is identified with the need and the courage to keep doing what you can do best. Kemin today is currently composed of 14 independent operating units, each with their own president. Together, they produce more than 500 ingredients to serve their customers. The net sales reached in 2014 was \$585 million.

**Keywords:** *leadership team, family business, innovations, technology, social responsibility, ability to evolve, entrepreneurship approach.*

## 1. INTRODUCTION

The changes that have occurred in recent years have led to a change in the competitive environment. Today companies are continuously looking for new competitive strategies.

Several factors impact on the companies' propensity to innovate, such as the organisational structure of the companies, their size, the impact of their sectors and strategic approach to changes in the context. Some scholars argue that the role of innovation is the opening to the newness. The innovation for family businesses<sup>1</sup> may be considered as a means to reach and to maintain a competitive advantage in a long-term perspective.

Not only, as some research has emerged as family businesses invest a lot in terms of innovative strategies.<sup>2</sup> In the light of this, the paper has as objective the study of innovation management within a family company, Kemin.

## 2. THE CASE HISTORY: KEMIN

Kemin was created in 1961 by Rolland W and Mary Nelson in Des Moines, Iowa (United States). It's a globally family business that produces innovative nutritional and health solutions for a growing and constantly changing world. Kemin combines molecular science with human creativity to improve the lives of humans and animals worldwide. Using science, it produces more than 500 ingredients, therefore providing important nutritional benefits for humans and animals. From these humble beginnings, Kemin has grown to meet the needs of customers in the feed and food sector globally, as well as in the health, beauty and nutrition markets. It's production and organizational expansion dates back to the '60s.

It's precisely in the years of the economic boom that the company felt the need to expand outside the United States of America. The small company settlement turned into an industrial production. This allowed the company to take advantage of the extremely positive historical moment to invest and to find new opportunities in the market.

At the end of the '60s, Kemin was exporting its products to distributors in the United Kingdom, the Netherlands and Spain. With reference to the constantly changing and growing European demand, in 1970 Kemin opened its first regional office in Herentals, Belgium. After the '80s, convinced of the idea of expanding effectively in other territories the company established manufacturing facilities in many other countries outside the Usa, fully respecting the local cultures and customs. The internalization

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<sup>1</sup> Source: Dreux 1990: "Family Business are companies that appear to be controlled by one or more families, who have a level of incidence in organizational governance sufficient to substantially influence the company's decisions".

<sup>2</sup> Source: Craig, Moores 2006

strategy consisted in use of qualified staff and management chosen locally. This smart production choice allowed the company to achieve significant results not only in the relevant markets, but also with local distributors. During these years, a new approach to R&D was introduced. Not by chance, in fact, the development of Kemin translates into the ability to continuously invest in research and development. In reference to the ever changing, Kemin decided to found his second regional headquarters in Singapore in 1988. Then through continuous investments, the company expanded its global presence through further openings of new subsidiaries:

- In 1994, it opened an additional production site and sales in Zhuhai, China. Since then its philosophy was to use science and education to address market requirements and therefore provide better quality products.
- Shortly after that, the company turned its attention to the Indian market, taking on sales and manufacturing operations and displacing an additional site in Chennai<sup>1</sup>.
- The increasing amount of products exported to Europe, made it necessary to establish production facilities, R&D and administration by implementing a penetration in the European market. To this regard, in 2010, Kemin opened a cutting-edge production facility in Veronella, Italy<sup>2</sup>.

Thanks to the increasing quality of products and the distribution capillary action, there was a decisive step forward not only in terms of sales but also in industrial investment. During these years, the company implemented significant investments in R&D in fact, since 1980, it expanded the range of products to the human food sector as well. By means of constant research they discovered that the same chemical products used for the production of animal feed was also effective to the inhibition of mold, bacteria and microorganisms that may arise also in human food. All these improvements make Kemin a bioscience company that produces nutritional and innovative solutions for a world that is growing and changing.

Kemin now has wide range of ingredients (about 500) and more than 200 patents. Its peculiarities and its values are well known in the United States and around the world, in fact, they sell in more than 90 countries including Belgium, Brazil, China, Italy, Singapore, South Africa and the USA.

### **Mission and Vision**

Kemin's intent is to work in partnership with its customers to satisfy their needs.

Through the mission the company reaches its target, with primary emphasis on the satisfaction of customer needs; through a combination of talent and science Kemin aims to find innovative

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<sup>1</sup> India

<sup>2</sup> Source: <http://www.kemin.com/about/history/>



nutritional and health solutions for a changing world.

With constant innovation at the molecular level, thanks to new technologies and research and development, the company promotes steady improvements in its products and processes.

In 2005, the International Electrotechnical Commission (IEC) 17025 awarded Kemin an international recognition. Through this quality standard the company's competence in the conduct of laboratory tests was certified. It is easy to identify those values that best represent the company's essence:<sup>1</sup>

- Integrity, communication, respect for colleagues, customers and suppliers.
- constant work maintaining high product excellence
- Constant change as a business model to be pursued
- Teamwork across functional and business units.
- Passion in serving customers.
- Confidence in the value of the products.
- Innovation and quality in processes, products and services.

### **Business Unit**

The company is structured into seven divisions<sup>2</sup>.

- *Animal Nutrition and Health*: Kemin intends to meet the animal's nutritional requirements and completely eliminate from its feed all toxic substances and bacteria.  
In addition such innovative solutions help manufacturers and meat breeders reduce production costs.
- *Pet Food Technologies*: For more than three decades Kemin has cooperated with many of the major pet food producers of the world. In close collaboration with its suppliers they create innovative ingredients that meet the formulation needs, taste and attractiveness of the products.
- *Rendering*: As an active partner in the pet food industry for more than 30 years, Kemin has realized important relationships that help provide solutions and unique services for the rendering industry.
- *Dietary Ingredients*: Kemin offers a diverse line of scientifically developed nutritional ingredients. It provides supplements designed to encourage the hiring of certain elements and substances not present in some foods.
- *Food Technologies*: Extensive knowledge of oxidation processes and molecular food, made Kemin a leading choice for comestible preservation and safety. To best meet the particular

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<sup>1</sup> Source: <http://www.kemin.com/about>

<sup>2</sup> Source: <https://www.kemin.com/en/europe/markets>

needs of diverse economic and geographic regions, as well as the needs of multi-national companies, Kemin Food Technologies has production facilities around the world.

- *Personal Care*: Their personal care line is composed of ingredients that improve skin appearance, formulation texture, stability, performance, and delivery of actives. ingredients consistent, reliable, effective and safe, for the various sectors in which it operates, including the cosmetics sector. Moreover, it is able to offer active and functional ingredients, with the aim of offering further benefits to the final consumer.
- *Pharma & MedDevices*: Kemin was the first company to introduce lutein-based intraocular dyes. Today, Kemin Pharma offers one of the most comprehensive lines of intraocular dyes available for the ophthalmology surgical device market.

Today, these seven divisions are held together by Kemin's mission. The current market penetration of the company is estimated to "touch" to 2.5 billion people every day; this clearly show Kemin is vision and a values.

### Swot Analysis

The SWOT analysis is one of the main measures undertaken within the strategic analysis.

It is a structured planning method used evaluate the strengths, weaknesses, opportunities and threats. The SWOT analysis (also called SWOT Matrix) is the kind of analysis that can be used for a company, a product or even on a person. The starting point is focusing on the goal the company wants to achieve. Thanks to this tool the company makes an analysis of its:<sup>1</sup>

*Strenghts (S)*: characteristics of the business or project that give it an advantage over others; *Weaknesses (W)*: characteristics that place the business or project at a disadvantage relative to others; *Opportunities (O)*: elements that the business or project could exploit to its advantage; *Threats (T)*: elements in the environment that could cause trouble for the business or project.

From the intersection of these four points we get many different strategies that can be adopted by an enterprise:<sup>2</sup> **SO** strategies use their strengths to take advantage of opportunities; **ST** strategies use their strengths to avoid threats; **WO** strategies take advantage of the opportunities overcoming weaknesses; **WT** strategies make minimal weaknesses and avoid threats. Applying the Swot Analysis allows Kemin to identify its strengths, weaknesses, opportunities and threats as follows.

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<sup>1</sup> Source: Pellicelli A.C. (2009), Introduzione al marketing startegico, Giappichelli, Torino, To

<sup>2</sup> Source: Pellicelli G. (2009), Il marketing, Giappichelli, Torino, To

<p><b>STRENGTHS</b></p> <p>Over 200 patents supported with quality processes and procedures;  Cost advantage through the property know-how;  High quality products;  Sales in more than 90 countries (global coverage);  Advanced Research and constant innovation with patenting of new formulas;  Equitable and sustainable development;  Great selection of human resources through a high vocational training;  Exclusive access to natural resources</p>	<p><b>WEAKNESSES</b></p> <p>Low investment in adv;  Lack of products directed for children;  The patchy distribution of products throughout the Usa;  Limited brand visibility to the final consumer;  Use of ingredients not available in every countries;  Constant need of investments in R&amp;D.</p>
<p><b>OPPORTUNITIES</b></p> <p>Information and communication;  New market trends;  Removal of international trade barriers;  Possible partnerships and strategic alliances with other companies.</p>	<p><b>THREATS</b></p> <p>Strong competition (direct and indirect);  Presence of substitute products;  Instability of the commodity market prices due to war for the extracts and the raw materials.  Development online shopping;  Strong barriers to enter world markets due to different regulations;</p>

Figure 1.4 - SWOT Analysis Kemin<sup>1</sup>


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<sup>1</sup> Source: Results of SWOT performed by the authors

The following table shows the strategies that Kemin could adopted by crossing the four areas below:

<p><b>Strategies S-O</b></p> <p>To take advantage of new market trends (e.g. food) in order to create new products, by reducing the amount of chemical additives and components;</p> <p>To maintain a high quality level of chemical recipes;</p> <p>To keep training staff at high level;</p> <p>To expand its presence into new countries through the opening of new production sites (eg. Turkey).</p>	<p><b>Strategies W-O</b></p> <p>To focus more on the image and brand awareness approaching the B2C market;</p> <p>To resort to research Joint Venture by reducing costs in R&amp;D. To enter emerging countries (Asia, Japan), very sensitive to the culture of natural products;</p> <p>To reinforce the segments in which the company operates;</p> <p>To expand the range of products and natural/innovative ingredients.</p>
<p><b>Strategies S-T</b></p> <p>To increase marketing strategies in order to involve multiple buyers;</p> <p>To continue to invest in R &amp; D due to high competition (highly skilled competitors);</p> <p>To increase the information about the company products and their use;</p> <p>To develop biological products by responding in detail to the trend of the sectors.</p>	<p><b>Strategies W-T</b></p> <p>To abandon the sectors with the decreasing sales and the references which do not generate substantial returns;</p> <p>To focus on visibility and brand awareness both in positioning against competitors, and as returns in terms of customer loyalty (B2B and B2C).</p>

Figure 1.5 - **Strategies<sup>1</sup>**

### 3. FAMILY BUSINESS INNOVATION

In this section, we examine the impact of this changes in all services offered by the company and we explain the many factors that push the company to constant investments in innovation. First of all, these changes consist in an evolution of the operating businesses and their organizational structure. The opinions in the field of innovation in family firms do not seem to be unique. Dunn (1996) says that family businesses tend to be less innovative but more traditional and conservative; very often these companies focus on the internal dynamics of the company and are less prone to develop external collaborations.

Contrary to what some scholars say, family businesses invest a lot on innovation in order to maintain a sustainable competitive advantage in the long term. In fact, according to Craig and Moores<sup>2</sup> "consolidated family businesses seem to attribute much importance to the practices and innovative strategies". According to these theories, the family owned businesses are more creative and innovative. There are many factors that drive companies to constant investments in innovation. An examination of the literature in the field of high-tech companies emerge a variety of definitions. It may be useful to summarize one of the most significant.

According Kleingartner and Anderson (1987), the high-tech companies as a feature of the primary objective of transferring new ideas in the market. To achieve this goal:

<sup>1</sup> Source: Results of the strategies carried out by the authors

<sup>2</sup> 2006, pp. 1-10

- Devote significant resources to R & D, with an R & D ratio / sales at least twice the average of other sectors;
- Take on employees and develop professionalism highly technology-oriented;
- Research of new products for existing markets and new markets.

This feature provides a strong scientific/technical content to the sector which result in pressures that make different competition from that of other sectors. One of the reasons why Kemin is considered a high-tech company is given by the impact that its R&D has of sales. The net sales recorded in 2015 amounted to about \$3,4 billion and the impact of R&D represent 13%<sup>1</sup> of it.<sup>2</sup> This data is a clear proof of how the company follows this market trend to offer more quality products and services. Despite Kemin is a family business, innovation represents the means of strategic change. The innovation for Kemin may be considered as a means to reach and to maintain a competitive advantage in a long-term perspective.

Hereinafter is a list of some of the factors that drive a company like Kemin to innovate:

- Competition: great global competition means that companies continue to invest in R&D to maintain their competitive advantage. In a constantly changing world, innovation is the first tool to compete.
- Company philosophy (constant innovation): As our world continues to change and evolve, it is necessary to provide innovative solutions for the consumer designed to meet the increasing needs following the market trends. Motivated by personal health, animal welfare, Kemin invests in R&D to create new solutions for the new consumer.
- Need to evolve: The rapid economic growth and the population growth lead to the need to evolve. To evolve means to be able to change and adapt to new market drives.

Whatever the specific goal of an enterprise is, this is due to the desire to build its competitive advantage by exploiting the opportunities that arise in the macroeconomic environment. In the specific case of Kemin, that advantage is represented by constant innovation of products and processes. This innovation is surely guaranteed by high training staff, maintenance of hygiene factors (Those factors the absence of Which demotivates people), quality production guaranteed by sustainable methods and international certifications as well as in the high investment in scientific research laboratories. The strategic tool that takes into account the trends dictated by the industry is PEST. PEST represent the analysis of the following detailed environments:

- *Political-legal*: the political environment surrounding the company has an important influence on its strategies. The legislative measures and upgrades, both national and international, are

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<sup>1</sup> Result obtained using the following formula: R&D as % of sales = (Expenditure on R&D/Total Net sales)\*100

Source: Kleingartner and Anderson (1987)

<sup>2</sup> Source: Data provided by the company - Kemin

increasingly regulating the operation of businesses and represent indispensable guidelines for placing products on the market.

It is clear that a company like Kemin, a manufacturer of ingredients and natural extracts, operating internationally, must necessarily comply with the rules followed by each of the countries they wish to operate in.

- *Economical*: is the collection of forces acting on the economy and interacting with the operations of the enterprise. Such an environment is influenced by factors such as income, unemployment, inflation and interest rates; items to be evaluated with particular care when planning a strategy. The constantly increasing globalization and emerging markets, make the economic dynamics more complex, with respect to both paying attention to the local rules and the instability of the money exchange.
- *Socio-cultural*: this field refers to population characteristics, education, consumer habits and their lifestyles. The different trends, changes in perceptions and attitudes in relation to certain themes can have significant effects on both the demand and the supply of goods and services offered by the company. Focusing more on the consumer preferences, companies need to adapt their offers to new trends that keep manifesting within the industry.
- *Technology*: technological trends have a significant impact on the company's products and services. Substantial and constant technological improvements are carried out within the industry as far as the R&D of new ingredients, materials and solutions. The technological impact on the products of the company and its production processes make it cutting-edge and able to protect itself against potential threats.

#### 4. CONCLUSION

An analysis carried out has emerged as family businesses play a fundamental role in the global economy. Innovation in a family business plays a very important role, acknowledged by all stakeholders. Like other companies, Kemin, over the years, is structured internally with a specific area of R&D. Kemin like family owned have some advantages over other companies, in their focus on the long term, their commitment to quality and their care and concern for employees. They separate individual business and coordinate them in order to create value and customer satisfaction. They have to coordinate the individual business in order to cut the costs and create synergies. The advantages of organising a business like Kemin in independent business units is that they care about them in a separate way which is meaning that they can take separate risk, and less risk as well. It is necessary that the entrepreneurial family never cease to study the market and its dynamics (SWOT).

In fact, the supervision of the family is essential to innovate while retaining the values and corporate culture. This research has analyzed a large-size operating in different sectors, in particular in the food ingredients market.

Innovation is an important element that is also affected by the economic environment, social, technological (PEST) in which the company operates.

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# HOW MARKETING COMMUNICATIONS PROFESSIONALS UNDERSTAND AND USE TRADITIONAL AND CONTEMPORARY PERSUASION METHODS?: A QUALITATIVE STUDY IN ARMENIA AND GREECE

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## ABSTRACT

**Purpose:** This paper explores the adoption of both contemporary and traditional persuasion methods by marketing communication professionals in Armenia and Greece. In particular, it investigates how communication professionals in four marketing communications sectors, namely public relations, social media, advertising, and marketing/consulting, implement traditional and contemporary persuasion methods, with an additional emphasis on neuromarketing techniques.

**Design/methodology/approach:** The study used semi-structured, in-depth personal interviews and a sample of 18 participants in four marketing communication areas: specialists of public relations, advertising, social media, marketing/consulting in both Armenia and Greece.

**Findings:** Results indicate that approaches of marketing communications professionals in both countries coincide to some extent and that there is a need for more education related to action-based persuasion techniques among those professionals.

**Research limitations/implications:** This research is exploratory in nature and restricted to communication professionals in Armenia and Greece. Suggestions are presented regarding future studies and generalization of the findings.

**Practical implications:** Increasing need for action-based persuasion approaches; making the messages more customer-oriented (self-centered), more visual, more emotional and more tangible are the main implications for the communication professionals in the field.

**Originality/value:** This is the first cross-national study that explores adoption of persuasion methods from different perspectives and approaches. The study extends the body of knowledge of adoption of persuasion methods by marketing communication professionals, offering empirical findings from both Armenia and Greece.

**Keywords:** *persuasion, persuasion methods, persuasion principles, marketing communication professionals, neuromarketing*

## INTRODUCTION

Persuasion in marketing communications is an old phenomenon (Petty and Cacioppo, 1986; Myers, Abell and Sani, 2014). However, contemporary literature suggests that the extent of persuasion has increased, taking into consideration some of the new approaches supported by empirical studies, giving rise to the development arena of experimental data of new behavioral and neurological models (Yeung 2011; Lindstrom, 2011).

According to Shelby (1986), persuasion is a process by which a message induces change in beliefs, attitudes or behaviors. Efforts to persuade are controversial and beneficial. Myers, Abell and Sani (2014) state that persuasion is neither inherently good nor bad. It is rather a message's purpose, form and content that elicits judgments of good or bad: "the bad we call "propaganda", the good we call "education" or "information"" (p. 203). Similarly, Kruglanski and Thompson (1999) highlight that beside its "darker side" and the potential for misuse, persuasion has a positive aspect. As authors state it constitutes the mainstay of psychotherapy, effective education, counseling as well as successful negotiation, without which, "good interpersonal, intergroup, and international relations are unthinkable" (p. 83). Funkhouser (1984) describes persuasion as "a process of information management aimed at engineering the decision to act" (p. 18). Author points out three main information flows that lead to persuasion: status information, persuasive messages and feedback. Funkhouser and Parker (1999), while discussing the process of persuasion from two distinct parties, the persuader and the actor, viewed persuasion as "...a matter of Persuader's engineering Actor's decisions to produce the desired action" (p. 28).

Petty and Cacioppo (1986) claimed that even though there was an enormous quantity of data and a notable number of theories, "perhaps more data and theory than on any other single topic in the social sciences" (p. 2), it was still an area of research with several literature gaps, and with a need for more rigorous research. The interest in the topic has been more highlighted recently, especially because of the introduction of new technologies of persuasion that have led to action-based approaches to the phenomenon. This paper charts the modern preference within the literature for the use of action-based persuasion rather than other models of persuasion. This issue has provided the initial impetus for this study.

Additionally, majority of empirical studies apply quantitative approaches and experiments and only a few are qualitative in nature (Horn, Fries and Gedenk, 2013). To our knowledge, there has not been an empirical cross-national study on exploring the adoption of persuasion methods from different

viewpoints by using a qualitative methodological approach. Last but not least, although there are several studies focused on persuasion techniques from developed countries (Eser, Isin and Tolon, 2011; Va, 2015), this is the first to touch such issues in the two countries involved, alongside introducing neuromarketing in the light of persuasion methods.

If we are to understand more fully the implications of persuasion tools for relational strategies, then a close examination of action-based theories of the approach called “neuromarketing” is also required (Pilelienè, 2012; Senior and Lee, 2008). Hence, a special attention is given to neuromarketing issues throughout the review. As Lindstrom (2008) claims understanding the human brain will help specialists develop better methods for selling products. Meckl-Sloan (2015) asserts that neuromarketing as a relatively new discipline and a tool used for persuasion purposes is becoming an important field of study for academic researchers and practitioners, since “the development of a “biological model” that addresses “context-situated human behavior such as consumption” (p.133) has not been adequately researched.

On that basis, the aim of the study is to explore and attempt to explain the adoption of traditional and contemporary (with an emphasis on neuromarketing) persuasion methods by marketing communication professionals in Armenia and Greece.

Moreover, the objectives of the study are fourfold:

- (1) to investigate attitudes of marketing communication professionals concerning persuasion methods
- (2) to highlight which specific persuasion principles they apply and why/how
- (3) to examine potential differences between different approaches of marketing communication professionals in Armenia and Greece
- (4) to develop suggestions of how persuasion methods can be improved for marketing communication professionals

The prime focus was to obtain preliminary insights rather than test theory.

Conclusively, our findings could be a value to both academics and practitioners and could serve as a reference for future research on persuasion.

## MAJOR THEORIES OF PERSUASION IN MARKETING

In the persuasion context, there are widely embraced models such as the Elaboration Likelihood Model (ELM) (Cacioppo and Petty, 1986; Petty *et al.*, 2000; Jones, 2004), Heuristic-Systematic Model (HSM) (Chaiken, 1987; Chen and Chaiken, 1999), Information-Processing Model (IMP) (McGuire, 1968; Flay *et al.*, 1980; Scholten, 1996), and Unimodel (Kruglanski and Thompson 1999; Kruglanski, 2013). However,

Funkhouser and Parker (1999) claim that the theory of persuasion in marketing is mostly based on opinion or attitudinal rather than behavioral change. From a marketing communication perspective, these attitudinal theories do not provide useful assumptions and implications. Yet “practical persuaders” such as advertisement, PR, social media professionals, as well as marketing executives, focus not on changing attitudes but “on getting other people to do what they want them to do” (p. 27). One of the theories that gives practical assumptions and explanations of the mechanisms of persuasion is the Action Theory of Persuasion (ATP).

Contemporary academic literature on persuasion offers some empirical research, but habitually following fields of social psychology and communications in spite of the fact that these scholarly studies “focus primarily on changing social attitude through mass communication” (Funkhouser, 1984, p. 17). He states that experimental behavioral science research is “at a disadvantage in studying the selling process because selling is interpersonal and dynamic”, hence it is “inaccessible” to traditional research methodologies such as surveys or experiments. Surveys can deliver “static descriptions” of respondents’ beliefs, attitudes, perceptions, knowledge and feelings but cannot capture the dynamics of the process. Experiments must employ standardized messages and tools for proper control and consequently apply better “to mass communication than to interpersonal communications” (p. 17). A key assumption of Action Theory of Persuasion (ATP) theory is that every action is headed “...by a decision to act” (Funkhouser, 1999, p. 28).

## CIALDINI’S CLASSIC MODEL OF PERSUASION

According to Goldstein *et al.* (2008) there are a number of scientifically proven persuasion methods and tactics accessible to communication specialists for designing persuasive messages, the most widely known and influential one being Cialdini’s. In Cialdini’s (2007) model, the most common types of persuasion principles or shortcuts are the following six.

*Conformity and consensus.* People look to the actions and behaviors of others to determine their own. Conformity arises when there is a change in behavior due to social pressure (either implicit or explicit). According to the science of consensus, rather than relying on personal ability to persuade others, communication specialists can point to a customer what many others are already doing, especially many similar others. This form of social influence is designated; still it is crucial for the smooth functioning of any social group, especially in collectivistic cultures (Gleitman *et al.*, 2011).

*Reciprocity.* By virtue of the reciprocity rule, people are obligated to the future “reimbursement” of smiles, favors, gifts, offerings, invitations, and the like or in other words obligation to give when they receive. Appeals of reciprocity in communication campaigns include such marketing techniques as free samples, giving tips, mints, fortune cookies, etc. In this context of social obligation, important is not

*what* is given but *how* it is given. The key of using the principle of reciprocation is the factor of being the first to give and to ensure that what is given is personalized and unexpected (Goldstein *et al.*, 2008).

*Scarcity.* The idea of possible loss plays a large role in decision-making process. According to this rule, people want more of those things there are less. It is not enough to tell them about the *benefits* they will gain though. Marketing communication professionals should point out what's *unique* about the proposition and what they stand to lose if they fail to consider the proposal (Cialdini, 2009). Becheur *et al.* (2008) highlight that fear has a positive impact on persuasion process, as it "...leads to the acceptance of the message and to persuasion..." (p. 103). Scarcity influences the content of customers' cognition, the tendency of consumers from lower socioeconomic circumstances "to become materialistic", and even the "reciprocal nature of parent-child relationships from the context of evolutionary biology" (Roux and Goldsmith, 2014, p. 215).

*Authority.* Authority is the tendency of following credible and knowledgeable experts (e.g. diplomas, uniform, experience, etc.). This principle is widely used in advertisement campaigns with celebrity endorsement (Starcevic, 2013; Hung 2014; Mishra, 2015). Tran (2013) asserts that 25% of all ads use celebrities taking into account the fact that the target market has awareness and strong favorable unique perceptions of the external source. This justifies the excessive investments by companies to engage celebrities as respected and positive role models, in turn, impacting endorsed brand equity (Aureliano-Silva *et al.*, 2015; Dwivedi *et al.*, 2015).

*Liking.* People prefer to say YES to those whom they like. There are three important factors for this: they like those who are similar to them, who pass compliments and who cooperate with them towards mutual goals. This can be projected to an online environment as well (Lipsman *et al.*, 2012).

## NEUROMARKETING AS A CONTEMPORARY PERSUASION APPROACH

A contemporary and "intriguing marriage of marketing and science" (Lindstrom, 2008, p. 5) that is considered to be the new approach used for persuasion purposes, is neuromarketing. As Andrejevic (2012) states, it is merely the latest attempt by marketers "to take advantage of the promise of new media technologies for the purposes of persuasion" (p. 199), in other words, neuromarketing is the "marketing industry's embrace of the 'neurocultural' turn" (p. 199).

Neuromarketing is the study of brain processes that are relevant to economic decision-making (Hart, 2015; Krauss, 2015; Reinman, 2013). It is directed not at medical professionals, but rather at marketing communication professionals that are considered to be practical persuaders. Studies on neuromarketing have already investigated the phenomenon from different perspectives. They have focused on ethical issues (Flores *et al.*, 2014; Murphy *et al.*, 2008; Stokes, 2015), consumer preferences, expectation and motivation (Adhami, 2013; McDowell and Dick, 2013), behavioral prediction

(Penenberg, 2011; Zoëga Ramsøy *et al.*, 2015), and evaluation of the effectiveness of advertising (Almiron-Chamadoira and Dubernat, 2015; Dos Santos, 2015).

Importantly, Lindstrom (2008) believes that the process of uncovering what is going on in consumers' brains, what information passes through brain's filter and what information doesn't, leads "...to better understand ourselves- our wants, our drives, and our motivations- and use that knowledge for benevolent, and practical, purposes..." (p.5). This proposition may be attributed to the recognition that in the new marketplace this "...would not only help sculpt the future of advertising, it would also revolutionize the way all of us think and behave as consumers" (ibid, p. 5). The study of Eser *et al.* (2011) offers an interesting overview related to the perception of marketing academics, neurologists, and marketing professionals about neuromarketing. As authors state, neuromarketing is "not a manipulative way of selling unnecessary goods and services" (p. 854). Three factors, interest and participation, knowledge and awareness, and ethics, should be perceived as the most important aspects of neuromarketing. Thus, "...neuroscience is not something new; the new thing is its use in business in order to make business more "intelligent" with the help of the doors which are open to knowledge" (Ciprian-Marcel *et al.*, 2009, p. 807).

In the light of classic persuasion approaches and of the more contemporary one of neuromarketing, this study strived to explore current opinions and adoption among four types of communications professionals in both Armenia and Greece.

## METHODOLOGY

In order to understand the adoption of persuasion methods by marketing communication professionals, a qualitative approach was applied, taking into account the fact that the reward of qualitative approach involves direct engagement with everyday realities and prospects to make considerable contributions to the field (Gephart, 2004). Moreover, it expands the knowledge by providing "unique, memorable, socially important and theoretically meaningful contributions to scholarly discourse..." (p. 461). As mentioned before, qualitative research has been used less in persuasion studies in the business context.

Semi-structured, in-depth personal interviews were used for obtaining adequate information related to the studied phenomenon as is recommended for such studies (Dilley, 2000; Mojtahed *et al.*, 2014). In order to acquire multiple perspectives and explore the adoption of persuasion methods by various marketing communication professionals, maximum variation sampling was used. This sampling approach is considered to be one of the most frequently used purposeful sampling techniques (Leech and Onwuegbuzie, 2010). Within the sample of 18 marketing communication professionals, variations included: sector or industry: social media, advertising, PR and marketing/consulting, interviewee's

experience in the related field and two different countries. The sample units were chosen taking into account Ritchie *et al.* (2003) argumentation that they do understand “the central theme and puzzles” (p. 78) of the phenomenon under investigation, which are reflected at the experiences and roles that the participants possess. The total of 18 professionals included nine in Armenia (three in social media, two in advertising, two in PR and two in marketing/consulting) and nine in Greece (two in social media, two in advertising, three in PR and two in Marketing/Consulting).

Each interview lasted approximately for one hour and, if needed, additional clarification was obtained via mail, phone or Skype. Interviews were recorded, transcribed and then translated into English whenever needed.

Concerning data analysis, coding was used to arrange the large amount of textual data, synthesize it and create meaningful categories, as recommended in relevant literature (Lawrence and Tar, 2013).

## FINDINGS AND IMPLICATIONS

In terms of the participants' attitude and perceptions about persuasion, the majority defined persuasion as a “cornerstone for what I do” (1.2a., Advertising PROF, Armenia); “one of the important elements for my job” (1.1c., Social Media PROF, Armenia); “absolutely necessary” (2.2b., Social Media PROF, Greece.) which is in agreement with the extensive body of literature. At this stage of discussion related to the main attitudes concerning persuasion methods, interviewees both from Armenia and Greece described the core persuasion in fairly stark terms: persuasion as a term is used in order “to make people think, feel, choose whatever you want” (1.3.b., PR PROF, Armenia), in some cases “in a subtle imposing manner” (2.3.a., PR PROF, Greece).

Both country representatives mostly portrayed persuasion from two angles: persuasion as communication and persuasion as manipulation. However, one specific tendency was noticed: specialists of Armenia perceived and discussed persuasion in some cases more from the manipulative perspective than Greek specialists. This fact is probably related to the fact that specialists in Armenia are more involved in suchlike activities taking into account the fact that the country is situated in a geographically problematic area and have a certain Soviet Union experience.

Those that described persuasion as an action-inducing approach held a very strong opinion about it: “the mechanism should lead to a specific action: purchase, call, order (1.4a., Marketing PROF, Armenia). Similarly, “...marketers do not feel deep down that everything they design is to produce action, whatever action, maybe to buy, to visit us, to go, to participate in a completion, to have a test drive... even to talk to other people, which is also an action” (2.4a., Marketing PROF, Greece).

Specialists from both countries highlighted that the use of persuasion on conscious or subconscious level is “situational” (2.3.a., PR PROF, Greece), “...spherical and depends on the target, as some argumentative



*cues can be accepted subjectively*" (1.3b., PR PROF, Armenia). Or, *"the process combines both: mostly the unconscious (give them reasons to believe) and then to satisfy the conscious"* (2.4a., Marketing PROF, Greece).

However, comparing the answers from the two countries, it seems that the code *conscious level* prevail in Greek professionals' responses more than in Armenia. Specialists from Armenia mentioned that the country is in a development stage, going through a generational change period. Marketing Communication as a profession has been in a way reinvented after the collapse of the Soviet Union; *"that is why this is a specialists' formation phase for the Republic of Armenia* (1.1a., Social Media PROF, Armenia). In contrast, the interviews with Greek professionals do not reveal the same approach.

What is common for both country specialists is that they emphasized the fact that professionals in their field do not understand much or use persuasion correctly. As one of the interviewees mentioned, *"they think very introspective, they are very inwards-looking, the only think that they think about, that is it going to look nice, liked by my CEO, win me an award, am I going to look cool when I meet with other marketing directors"* (2.4a., Marketing PROF, Greece). Similarly, *"it is a necessity for people working in communications not only to use persuasion but first to understand it deeply"* (1.2a., Advertising PROF, Armenia). Correspondingly, other professionals underlined the problematic parts and drawbacks while dealing with the issue, *"...need of specialists, professional team, practice; and the existing resources are not used productively"* (1.4b., Marketing PROF, Armenia). This leads to the discussion of the main problem, *"the fact that we don't have persuasion schools"* (1.2b., Advertising PROF, Armenia), and that, *"there is a need of specialized education in the related field"* (2.2a., Advertising PROF, Greece).

Discussing specific persuasion principles and ways of applying them, interviewees both from Armenia and Greece stated that the application process is complex, with a range of tools, that depends on several factors, such as *"...on an audience, product, and the level of creativity..."* (1.1a., Social Media PROF, Armenia). Comparing the two countries on neuromarketing, findings reveal that Greece is a step ahead of Armenia taking into account the fact that in Greece there are already several companies/agencies dealing with neuromarketing techniques. What is common in both countries though is the need expressed by professionals for further research in the field of neuromarketing. Few Armenian and Greek specialists, even though they consider it important, they do not accept it fully as a tool to be used. For example, *"the application of neuromarketing is a little bit frightening as it goes against the will of a customer* (2.1b., Social Media PROF, Greece), and, *"I think it is used for the products that there is no need to have them, in fact* (2.2a., Advertising PROF, Greece). In most cases where experts in both countries expressed skepticism towards neuromarketing, ethical concerns were the main reason. For other applicable tools opinions overlapped. What needs to be stressed here is that professionals from both countries proclaimed that, broadly taken, mass market persuasion platforms such as PR or advertisement, are less important than online marketing communications and even personal selling,

nowadays. Concerning objectives, the majority of participants emphasized informational, motivational or attitudinal (e.g. “top of mind”, “top of heart”) over behavioral-oriented objectives.

Among the six main persuasion shortcuts selected and presented in the scope of this research, communication specialists highlighted the extensive use of *authority and liking*. The use of the latter was more referred to the online environments such as company page likes, votes, comments, etc. In accordance, majority of participants stressed the importance of company’s online presence nowadays. As for authority, it is the most often used persuasion technique by companies in both countries. Interviewees indicated that authority techniques such as use of experts, government officials, celebrities, etc. could help to assure customers’ willingness to cooperate. Answers lead us to the point that marketing/consulting professionals are more into the action-persuasion than other fields of communication, “...without thinking in advance of persuasion, we cannot achieve it as it would a matter of luck, unfortunately though this not how the market operates or marketers are trained” (2.4a., Marketing PROF, Greece). Focusing on attitudinal rather than behavioral communication objectives was widely observed. Somewhat surprising, this was the case with social media professionals as well; this group highlighted the importance of “liking” than sharing, staying, interacting and engaging.

## CONCLUSIONS

The importance of using persuasion methods in marketing communications to induce action cannot be overstated. Although this study found that professionals considered persuasion techniques inevitable and vital, most didn’t use persuasion for leading customers to a specific action. The aim in most cases is for the brand to be top-of-mind or top-of-heart. This means that professionals’ attitudes do not match their actions. In order for persuasion to be applied for behavioral purposes education, training and more research is needed to show to them how it is done. The ethical issue of persuasion, especially for neuromarketing, needs to be addressed effectively in order for adoption in the field to accelerate.

In an online environment is the first step, but unfortunately many companies stop there. “I have so many likes” is not the point; due to the online algorithms used by many online platforms, customer is not even seeing any update on their wall. Persuasion has to be applied in all the steps: professionals have to persuade the customer to like, to stay, to interact and engage. This is undoubtedly difficult, challenging, risky, energy consuming effort.

Practice of credible people/experts, endorsers works in practice but practitioners need to establish expertise, identify problems solved and search for fit between celebrity and the brand. And this is also related to social media activities, since in online platforms endorsers are closer to the target.

It is worth highlighting that some persuasion methods have been already used a lot and customers developed kind of immunity. Marketing communication professionals should always be looking for

creative, fitting and fresh ways of using persuasion methods. Without thinking in advance of persuasion, specialists cannot achieve on purpose but rather as a matter of luck.

## LIMITATIONS AND FUTURE RESEARCH

The sample used in this study, although sufficient for achieving objectives, it cannot be considered representative for all marketing communication professionals, of Armenia and Greece. In regard to the effects of source credibility and message frame, future studies should involve larger samples in terms of size and geography and quantitative measures should be used to strengthen the current findings and acquire better view of the phenomenon under investigation. Also, as the focus was only on marketing communication specialists, future studies should include consumers' perspectives to present a more complete picture of persuasion, principles, methods and other related issues discussed in the research. In addition, this study raises many opportunities for future research in specific variables. For instance, what is the incremental effectiveness of each of the various persuasion techniques presented in this research and to what extent are these persuasion techniques important and how are measured by separately. The future will be very exciting and revealing indeed, concerning persuasion in marketing communications.

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## WHEN ASEA BECOME ABB – THE DECONSTRUCTION OF THE MYTH OF THE "SUPREMACY OF THE PLANTS"

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### ABSTRACT

**Purpose** – This paper aims to investigate how the dominating myths of a company changes.

**Design/methodology/approach** – The article is based on action research, and an analysis based on Marx and Gramsci.

**Findings** – In contrast to institutional theory and the individualistic so called top-echelon theories it is shown that top management is not necessarily in control of a company's direction and that it is necessary also for top-management to liberate themselves from hegemonic minds that threaten company survival.

**Research limitations/implications** – This is based on a case, and more research is needed to generalize the findings.

**Practical implications** – Elements of how to play the political games of subcultural conflicts It is shown.

**Originality/value** – The article shows that top management is neither necessarily in control of the company and neither have a clear understanding how to gain control, but that such control can be achieved as a truce between subcultures of acceptable intentionality.

**Keywords:** *Subculture, Hegemony, Political process.*

### BACKGROUND

In 1980 Percy Barnevik took over as CEO of ASEA, a Swedish Electrical Engineering giant (the only global competitor of General Electric). His lieutenant was Bert-Olof Svanholm. With Mr Barnevik as the strategist and Mr Svanholm as change manager, ASEA went through radical changes during the 1980s.

This article tells the story on how the myth of the competitiveness of the production of turnkey plants, as opposed to products and components (motors, generators, contactors, etc.) and services, was constructed and de-constructed.

During the realm of the predecessor of Mr. Barnevik, Mr. Nicolin, the company had become a very complex matrix organization with several "plant"-divisions, producing water power plants, atomic

power plants, steel iron foundries, etc. On the other side of the matrix, were producers of products and components going into those plants, as well as sold outside the company. There were also separate divisions for the service of these plants, products, and components.

During the leadership of Mr. Nicolin, the company "truth" was that the plant divisions were competitive and profitable, while the products and services divisions had limited competitiveness and profitability. Hence, the logical conclusion was to phase out the product divisions and concentrate all resources to increase the competitiveness of the plant divisions.

Mr. Svanholm came to question that. He saw a reverse logic.

This paper tells the story about the alliances between different sub-cultures that constructed the myth of plant supremacy. It goes on to tell how this was questioned and finally de-constructed and the new alliances of sub-cultures that made this de-construction possible. The "play" between the sub-cultures is dissected and analyzed.

## METHOD

As one of three consultants working for Mr. Svanholm in the changes that took place between 1982 and the rest of the 80's, this case was conducted as action research by the author. The length of the work for the company and the character of the work did not allow the luxury of "theoretical saturation"; during the eleven years between 1983 and 1994, I made several hundreds of *formal interviews* and had some thousands *informal talks* with personnel on all levels, the most prominent of which were Bert-Olof Svanholm and the CEO's of ABB Motors, ABB Järnkonst, ABB Installations, ABB Truck, and the CFO of ABB Service. I also had talks with many of the union leaders. Notes were taken during the interviews, but they were generally not recorded and transcribed. Many *observations* were also made.

"...culture needs to be observed, more than measured, if organization studies is to advance." (Schein, 1996b:229).

This *case study* (Eisenhardt, 1989; Yin, 1994) use multiple data collection methods (Eisenhardt, 1989). It is an example of *action research*, using a set of methodological approaches (based on Dewey, 1933; Lewin, 1946; and Argyris, 1993; all after Lüscher & Lewis, 2008).

"Action research is an iterative process involving researchers and practitioners acting together on a particular cycle of activities, including problem diagnosis, action intervention and reflective learning." (Avison, Lau, Myers & Nielsen, 1999:94).

Action research is not mentioned as one of the case study approaches in Eisenhardt's (1989:535) list of such, and has, according to Avison et al. (1999), not been used frequently in business administration,

but a query on Google Scholar found more than 57,000 articles published from 2000, with the cut between “action research” and “business administration”.

Action research also have the advantage of overcoming the limits of many studies of cultures:

“Even within sociology and anthropology, the disciplines most concerned with cultural matters, the published studies devoted to socialisation practices of groups, organizations, subcultures, societies, tribes, and so forth tend to be more often than not anecdotal, non-comparative, and based upon retrospective informant accounts of the process rather than the observation of the process *in situ*.” (Van Maanen & Schein, 1977:7)

The analysis method is a *dialectical analysis* of gradual change in positions, used by Marx in “The 18<sup>th</sup> Brumaire of Louis Bonaparte” (Marx and Engels, 1979). Marx analyzed the coup d’état of Napoleon III in 1852, as the result of changing alliances of different political parties, gradually shifting the political foundation of French society, making the coup d’état possible.

In the tradition of Gramsci (1929-1935/1971) it displays the consequences for company culture as the hegemony of plant supremacy is deconstructed and discovered to be mythical; eventually resulting in a new governing myth.

## MINDS

Our senses continually receive an infinite amount of information. However intricate our brain, it can only interpret a minor part of this information. A part of growing up is to develop experience structures (“grids”), censoring our sensorial information, thus giving our brain a limited amount of information to interpret. These grids are built on our experiences and our earlier experiences, the grid itself. Limited experiences give us limited possibilities to interpret reality and to understand it. Together we call these grids and the experiences that have shaped it for minds. We use the concept mind in the meaning of Bateson (1980), as a concept for the whole as a unity of value system and reality. You have a certain value system, because you have a certain reality and the same value system will affect not only your understanding of reality, but also the way you change this reality. Minds consists of systems of common values and a, with these values coupled (cf. Thompson, 1967), reality, in the form of form of work tools, educational background, personality traits, etc.

Minds are generally very stable. New information is interpreted into the grid, rather than allowing the grid to be questioned. Information that questions the grid is suppressed or distorted. If you are forced to revise it, the revision is limited to a single mind or a few minds, not fundamental parts of the structure (Vygotsky, 1970). Without this inbuilt “conservatism” in human minds, we would, to a larger extent than is common, be “autistic”, because of an information overload.



A collective mind is the common tacit knowing (Polanyi, 1961, 1962, 1968) of a community of praxis ((Weick & Roberts, 1993; Wenger, 2000), a group of individuals, a team, who collectively perform a larger task in an institution and society. The collective mind is developed in the teams' performance of their collective task. When groups of individuals have similar minds and a common reality, they constitute a culture.

"Culture is the result of group problem solving. " (Van Maanen & Barley, 1983:3)

"...the nature of human work groups and their interaction with work processes; that is, how people are organized to accomplish work, how they interact with one another and with technology, and how they conceptualize work and understand the meaning of their actions." (Rouse & Baba, 2006:70)

## VALUES

With values we mean the *existential* values (views of the world), out of which individuals and groups of individuals interpret reality and makes decisions. And the motivations of the employees, what gives them "kicks", (Schein, 1996).

## VALUE SUPPORTING AND VALUE BUILDING REALITY

Techniques, control systems and other parts of firm reality are not value neutral, but built by people with a certain view of the world, their minds. This view of the world is mediated to the people that use the techniques and the systems and in certain cases transform their view of the world. The objects both embody our culture and tell its story to new generations (Marx, 1970:178; Schein, 1996).

## SUBCULTURES

In larger organizations and in society there are always individuals and groups with different minds and hence different attitudes to proposed visions, strategies, and their organizational implications. These different minds have been developed in a historical process, where the groups' role in the organization, their education, their experiences, their working methods, and tools of trade (artifacts) have influenced the development of the minds of those making it up. In their turn, these tools of trade will express and embody the minds of these people. These artifacts become from those bearers of minds detached and materialized; cf. class or character masks (Marx, 1970I:178).

Within most organizations several different cultures, with different views of the world and different visions and goals for the organization, *different intentionality*, exist at the same time. These

subcultures show up in conflicts over working methods, motivation, and communication problems and in the worst cases as reciprocal mistrust (Schein, 1996).

“...we will define an organizational subculture as a set of organizational members who: (1) interact regularly with one another; (2) identify themselves as a group within the organization that is distinct from other groups; (3) share a set of problems commonly defined to be the problems of all; and (4) routinely take action on the basis of collective understandings unique to the group. “ (Van Maanen & Barley, 1983:12).

“...commitment is more strongly related to perceived subculture (ward culture) than organisational culture (hospital culture). “ (Lok, Westwood & Crawford, 2005:504).

“...the conceptualisation of the work and the understanding of the actions’ meaning are related to the values of a subculture that determine for example which tasks are perceived as more important than others. “ (Niemetz, De Kinderen & Constantinidis, 2013:4)

This is consistent with the findings of Ahrens & Mollona (2007:328):

“Organisational members can be shown to enact organisational subcultures through practices of control by combining heterogeneous materials and bodies of knowledge.”

## HEGEMONIC CULTURES

The dominance of a culture, verbally, visually and emotionally in formulating the agenda of the époque and the responses to that agenda, can make other cultures unable to formulate independent strategies. This means that the dominating culture has a hegemonic (Gramsci, 1929-1935/1971), influence over other cultures.

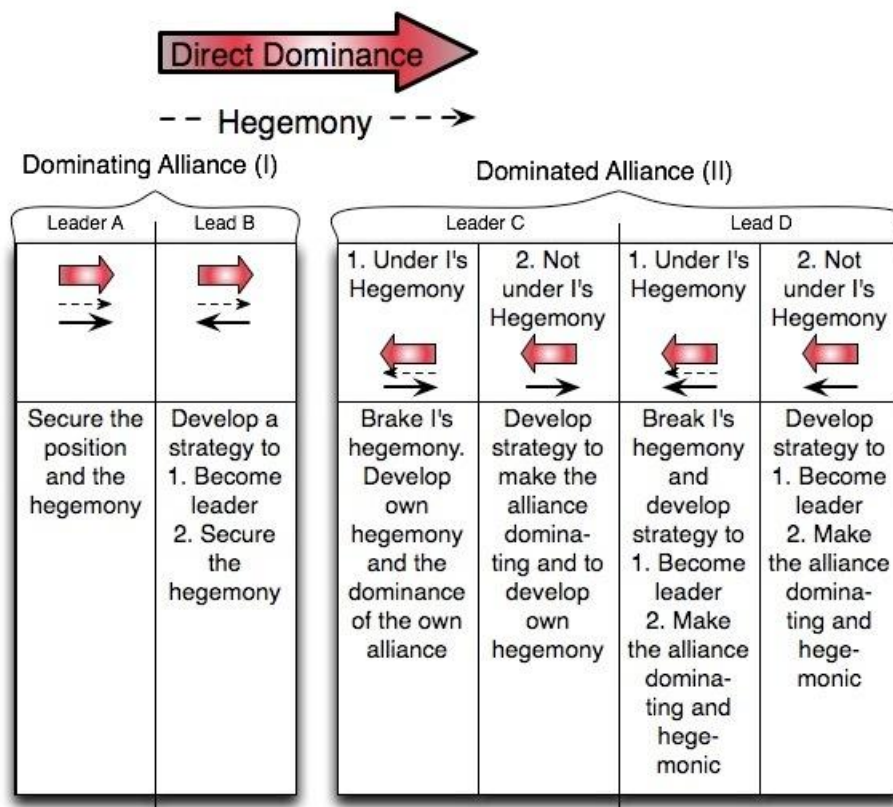
“...the subtle and sophisticated ways managers "manage meaning" to obscure employees' real choices.” (Sinclair, 1993:68)

Hegemony is the blocking of the cultural independence of other groups. They develop a collective “mental illness”, in the sense that they are unable to act out of their own interests, instead formulating those in the terms of the hegemonic culture; within the frame of the interests of the hegemonic culture. E.g.: up until the mid 1960’s, IBM educated almost all computer users in the world. These users later became the teachers of the next generation of computer users. IBM came to formulate what a computer could be used for, and how this should be done. IBM defined the thinking about computers, in such complex interlaced minds that all other suppliers found themselves playing on the “home turf” of IBM. Always, away matches! Their competitors were still unable to pursue wholly independent strategies in the 1980’s. Either they lived in symbiosis, as *subsumed* (cf Bettelheim, 1970) allies to IBM, as most software developers (MSA, IBS, e.g.) or as parasites, but still in the whole subsumed allies (for example producers of PC-clones). Digital Equipment had an independent line but lost it, eventually

being bought by HP. Others tried to formulate an independent strategy, but were forced to give up, but would try again soon (Apple).



Figure 1. A five-megabyte hard drive is shipped by IBM, 1956 (Mundo, 2016-06-30)



"...organizations [are] beset by conflicts of interest between subgroups possessing alternative ideologies and interpretive systems." (Van Maanen & Barley, 1983:14)

Figure 2. Strategic Position (Philipson, 1970; Philipson & Oghazi, 2013).

## POSITION AND STRATEGY

With position is meant where in “power game” you are. The tactical task is radically different, depending on the position, Philipson (1980:86-90).

If we are not power oriented (the negative aspect of power), we are only engaged in this political game of positions, this tactical maneuvering, as an instrumental activity (McClelland, 1971). It is necessary to become leader in a domineering alliance to fully realize our interests., to become empowered. And when in power, it is suitable to become hegemonic in this position, to defend our interests.

The real difficulty arises when we have to choose between being subsumed in a dominating alliance and being leader in a dominated alliance. Often this is a warning bell that we are subsumed under someone else’s hegemony, hence formulating our understanding of the conflict wrongly.

## MYTHS AND MINDS

“Myth provides a set of ideas which enable humans to answer the most vital questions, socializes the individual, and guides him or her towards maturation (Bowles, 1989, after Campbell, 1976).” (Dobosz-Bourne & Kostera, 2007:62).

This way of using myth is akin to my use of the concept of culture, especially a hegemonic culture that provides the governing minds. The ABB-ASEA case shows how the governing minds changed to be replaced by new governing minds, as the alliances of different sub-cultures evolve. Depending on if these are suitable to the economic realities of the époque, these minds are at the time and in hindsight viewed as positive or negative. Whether viewed one way or another, this judgment is only *transient*, as they will not function as governing minds for more than a limited time.

## ASEA, PHASE 0

In 1980 Percy Barnevik took over as CEO in Allmänna Svenska Elektriska Aktiebolaget (ASEA), a Swedish Electrical Engineering giant. His lieutenant was Bert-Olof Svanholm, later to become chairman of Volvo and of the Swedish Confederation of Employers, until he met a premature death in the 1997.

In the beginning of the 1980’s ASEA had a matrix organization. This meant that goods were produced in product divisions (motors, generators, contactors, etc.) and so-called plant divisions (metallurgy, power distribution, ASEA-Atom, etc.).

The ideology of ASEA was “central planning”: Centralized information should give the central management possibility to make the “right” decisions.

## ORGANISATIONAL SCLEROSIS

Mintzberg (1979) pointed out that the theory of “the Economic Man” has spread the myth that information can be broken down into small parts, “atoms” (called “data”), which are sent to centrally placed decision makers. At the head-quarter data is re-assembled and transformed into a “rational” basis for decision-making.

Taylor’s “Scientific Management” (1911) presumed that production should be organized in the simplest possible division of individual operations. This made possible the mechanization and automating of most elements of work, also conditioning the workers as only arms and legs of production. The division of labor presupposed an “Economic man”-mindset, top management having the intelligence. In a more and more advanced production, where the workers must have engineering competence on university college or university level, this mindset has given industry urgent problems in recruiting and motivating workers.

Since reality is not that engineered, but considerably more complex (Lindkvist, 1979:8), this myth has legitimized the development of the big centrally planned bureaucracies, whether the state-planned bureaucracies of Eastern Europe in the 1900’s, or bureaucratic decision-making structures of big corporate enterprises. Both Lenin and Ford had Taylor as their idol.

In the same way that the centrally planned Eastern European societies today have died of elephantiasis, many private corporations are threatened by their own irrational rationality, often called inertia.

To meet this development, some corporations try to break up their organization; by forming separate business areas and companies, by forcing certain unites of the corporation to sell their services internally and by sometimes enforcing absolute limits for how big unites are allowed to become before they are broken up.

To interpret the information gathered at the central head quarters, they needed a large centralized technostructure (Galbraith, 1967; Mintzberg, 1979), cf. also Gramsci’s (1929-1935/1971) concept of “cadre”.

During the 1960’s and the 1970’s a pattern had evolved in ASEA, where the civil engineers of the technostructures for construction (design), pre-production, and sales, together run the company in anonymous “process-like” decision-making, in practice making top management very weak.

Products and turn-key plants were sold by ASEA Svenska Försäljning AB, ASF, in Sweden and by sales subsidiaries outside Sweden; they were designed by a central construction *staff*; their pre-production *structure* and the production *processes* were developed by a central production staff. A central replenishment unit bought *integrated components*.

The sales companies lived on commissions, which made plants more interesting as a business than simple standard products, demanding many small sales to give the same commissions as a single plant. However, the sale of plants demanded complex design, material supply and production systems to deliver quotes rapidly and correctly.

“Research cautions that strong organisational cultures tend to uphold conformity and drive out dissension producing "strategic myopia" and rigidity (Lorsch, 1985; Bourgeois, 1984), inhibiting the organisation's capacity to scan its environment, to anticipate and respond to the rapidly changing needs of customers and other stakeholders.” (Sinclair, 1993:67)

## **ABB, PHASE I AND II**

To optimize their revenues, ASEA Svenska Försäljning, ASF (the largest sales unit), saw the need of making the design of plants rapidly, in order to respond to inquiries quickly. To that end, ASF supported the growth of a design technostructure. To guarantee the fastest possible delivery, they needed an accounting system that could block the necessary products and components in the stocks of the product divisions. In the first phase ASF was the leader of a dominating alliance. But the design technostructure rapidly rose to supremacy, because of the immediate effects on and structural dominance of pre-production, replenishment and divisions.

The company developed advanced design, material replenishment, and production systems in an IBM 43xx-environment (mainframe computers).

The systems, and the profit calculation model used, became governing minds (Bateson, 1980) for the whole company. Through these, the minds of the central technostructure became hegemonic (cf. Gramsci, 1929-1935/1971).

With such systems it became easy to create *variants* of existing products, at a lower price than most competitors. For the sales organization, this gave the possibility to let the clients to “talk themselves into a Christmas tree” of functional wishes, making ASEA the only possible fulfiller of these Christmas tree needs. Since the product became unique, you never had to discuss the price of the product, selling became relatively “easy”.

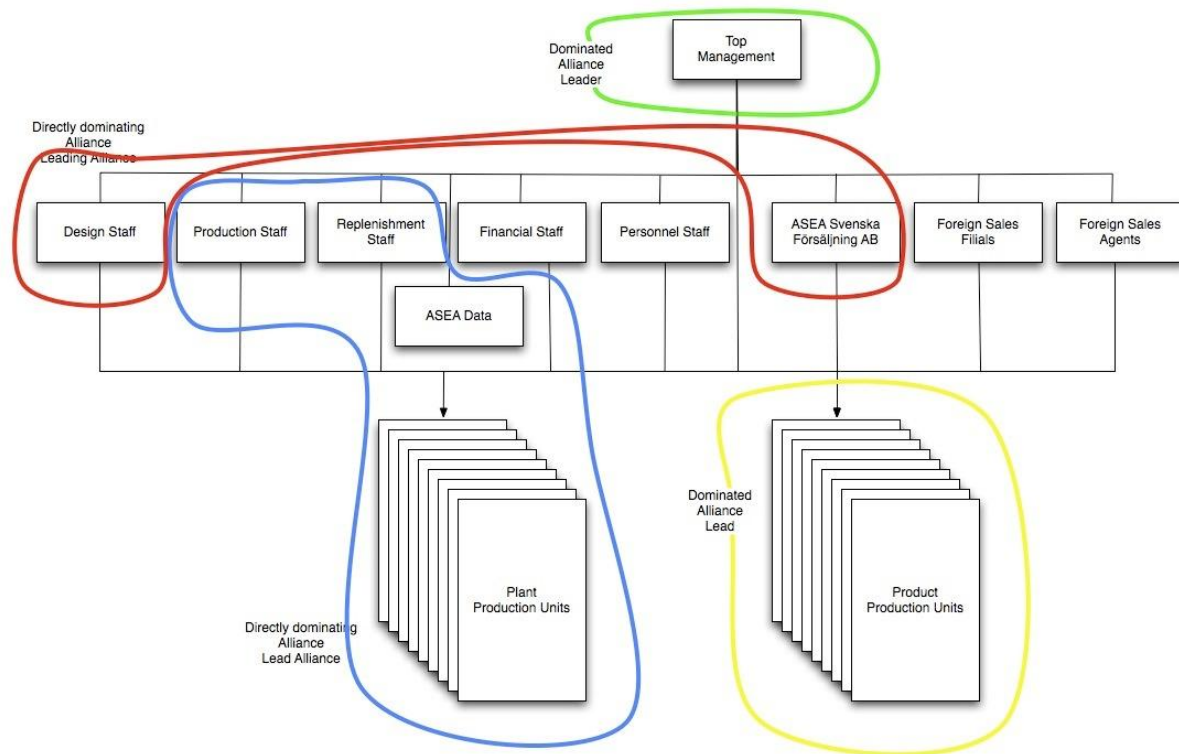


Figure 3. Alliances under Nicolin, own.

### ABB, PHASE III

The problem for ASEA was that all products became unique; the firm did not reach economies of scale. The standard products became expensive, because they were imposed with heavy “overhead costs”, because of expensive systems and the large technostucture. When the markets no longer were the sellers’, as the had been from the end of the II<sup>nd</sup> WW until the 1973 oil crises, clients reacted on the high prices, and the sales of standard products and total profits declined.

The design and sales minds in alliance were hegemonic over top management, as well as over marketing and production.

### ABB PHASE IV

To begin with, top management didn’t understand what happened. The governing minds had it that plant divisions were more profitable than product divisions. Demands that standard products really had to be standardized, were met with the idea that the clients requested “Christmas trees”, else they would not buy. When in 1983, I interviewed the CEO of ABB Motors, a product company with production and marketing, but not sales, responsibility, the CEO sincerely believed that the only relevant information about the needs of the clients were that the demand was a statistical distribution of tap height and motor effect.

Using formal power, the new top management dissolved ASEA Svenska Försäljning, giving the plant and product divisions' full responsibility for marketing and sales. The centralization paradigm still reigned, by a reinforced alliance between ABB Construction and ABB Data. We tried to weaken it, by implementing mini-computing instead of main frames at divisional level. It was difficult to get a break-through, but at the end of the 1980's, most divisions had taken control of their own computing. By making divisions more independent – certain even became independent companies - the top management tried to break up the hegemonic alliance. It became evident that the product divisions were the most sustainable. Already in the latter half of the 1980's most plant divisions had been sold, closed-down, or shrunk.

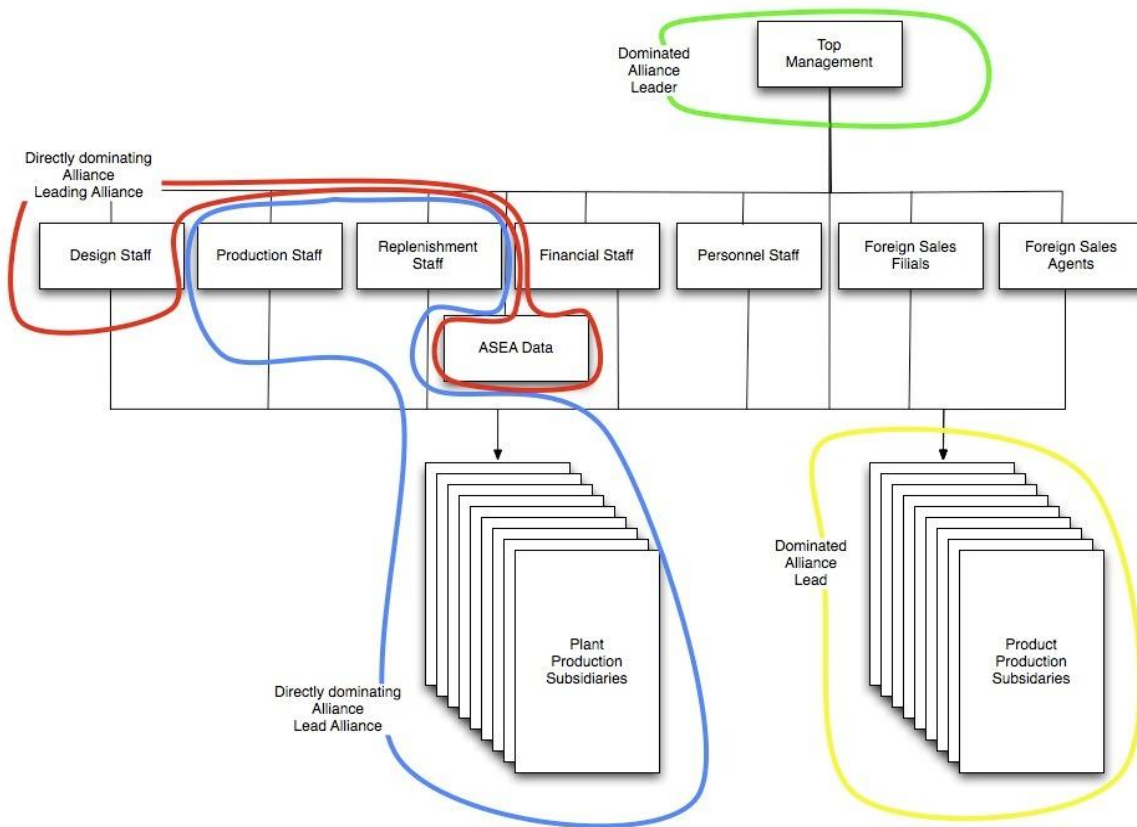


Figure 4. Alliances under Barnevik own.

"The first step is to develop an understanding of the "native" subcultures (Gregory, 1983), of the terrain of existing ethics and values and the points of difference. In identifying areas of controversy, points of potential consensus are developed or a cohesion profile (Arogyaswamy and Byles, 1987)... Finally, the organisation needs to devote considerable resources to working out how various subcultural practices and norms are to be reconciled without compromising core values and ethics." (Sinclair, 1993:70).



## ABB, LA SUITE...

Many of the problems still existed, but now on a subsidiary level. Many subsidiaries were unable to throw out old computer systems, and reality was often un-transparent for the management of these subsidiaries. Often, they themselves built big central staff, resulting in too large overhead-costs.

However, by viewing subsidiaries as “portfolio investments”, the level of control increased for ABB’s top management..

## CONCLUSIONS

We have shown how the governing minds in a larger company are the result of the “power-play” between different sub-cultures, all with their more or less well-formulated agenda for the future of the organization. Depending on structural, political, and economic shifts, the alliances of such sub-cultures results in different governing minds, the manifestations of a hegemonic subculture. This contradicts the prevailing view of top management as rational or even bounded rational decision-makers *in control* of the company as in “upper echelons theory” (Quigley, & Hambrick, 2015), and also the conventional wisdom of institutional theory that holds that

“Formal organizations are generally understood to be systems of coordinated and controlled activities...”, but “...decrease internal coordination and control *in order to maintain legitimacy*. ” (Meyer & Rowan, 1977:340) [our highlight]

Instead alliances of subcultures install a hegemonic view of the *acceptable intentionality* of the company.

## MANAGERIAL IMPLICATIONS

Sub-cultures have to be analyzed and the minds with which it is possible to be allied have to be identified and strengthened, and minds that are threatening company survival must be “eliminated”. The “political” process of managing such processes demand skills of transformational or transactional leadership. However, the very idea of transformational leadership is to impose a hegemonic mind, which might be successful in the short run, but might become disastrous in the long run (Gramsci, 1929-1935/1971; Levitt, 1960; Hedberg & Jönsson, 1978).

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## INTERNAL RATING SYSTEMS: THE PROCYCLICALITY OF BANK CREDIT AND NON-PERFORMING LOANS

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### ABSTRACT

The procyclical effects of capital regulation and the quality of IRB models in measuring credit risk are topics of the utmost interest. The first question is whether the rules established by the Basel II Agreement, which are more sensitive to the risk exposure of the bank's portfolio, can expand fluctuations in the economic cycle. The second question is whether the IRB method can actually measure the credit risk, either avoiding or attenuating the weight of non-performing loans.

This paper makes use of data concerning Italian banks to ascertain whether the use of IRB methods has had a quantitative and qualitative effect on the provision of funding in the period 2010-2014.

The analysis carried out underscored the fact that banks that have implemented internal rating models present a greater credit crunch. Said crunch was more intensive for those who adopted the basic IRB approach, rather than the advanced one, and for larger banks. At the same time, banks that adopted IRB methods had a larger number of non-performing loans.

**Keywords:** *Internal rating, Procyclicality, Non-performing loans, Bank credit, Risk management*

### INTRODUCTION

The increased procyclical nature of banking activities is an unpleasant consequence of regulatory innovations on the adequacy of banks' own funds and of the very rationale that underpins credit risk management. The basic difference between the Basel I and Basel II Agreements concerns the introduction of weighted capital, which is extremely sensitive to the risk presented by the loans portfolio. The former weighting system, which was based on statistical coefficients attributed to each exposure category, has been replaced by ratings that correspond to the creditworthiness of the individual counterparties. Two types of weighting methods are envisaged, as decided by the bank, namely the standard method, based on the rating opinions formulated by agencies acknowledged as suitable by supervisory authorities, and the internal ratings-based (IRB) approach. The latter allows banks to develop their own rating systems, which are validated by the supervisory authority. Hence, the possible procyclical consequences do not only trigger from non-performing loans (Basel I) but also

from performing loans (Basel II), whose creditworthiness has deteriorated. Moreover, internal ratings usually defined by banks have a tendency to lean towards the point-in-time (PiT) model. The increase in the loans portfolio riskiness recorded during a period of recession corresponds to a significant and sudden increase in the migration of counterparties from the best rating categories to the worst ones. The models used by rating agencies, instead, estimate the risk of default over a period that covers the entire economic cycle (through-the-cycle - TTC). In this case, the changes in the portfolio's riskiness resulting from cyclic effects do not entail immediate variations, thus limiting the volatility of capital requirements. The change in the credit offer, determined by the need to meet capital requirements, has been extensively documented and quantified by scientific literature, so much so that the new Basel III Agreement has established a dedicated corrective intervention to limit the volatility of capital requirements. Instead, empirical checks performed on procyclicality related to the adoption of more advanced rating systems are still limited. The increase in procyclicality resulting from the adoption of assessment methods that are more sensitive to risk might be a minor cost, if the methods in question could correctly estimate the default rates. In other words, a banking system that can correctly and promptly assess the riskiness of its portfolio can temporarily expand the economic cycles but it should also be able to attenuate the negative effects of the recession on the quality of the credit portfolio. This paper has two objectives, which are closely related. The first is to ascertain whether, during a recession period, the banks that implemented internal rating systems provided less credit than the amount granted by banks that relied on standard rating systems. The theory described below is that the credit crunch implemented during a period of recession is more intensive when internal rating systems are adopted that, besides mainly referring to the PiT model, are more structured and stricter. Indeed, the validation of internal ratings entails the adoption of a credit provision policy that is closely related to the outcome of internally formulated ratings, with limited override options. The second objective is to ascertain whether the banks that adopted the most sophisticated risk assessment methods have experienced a lower incidence of non-performing loans or of problem credits than those who did not use them. The paper is organised as described below. Section 2 summarises the literature regarding the procyclicality resulting from capital requirements and from the implementation of internal ratings, and the effects on the quality of credit. Section 3 describes the sample used. Section 4 presents the method used for the two questions, while section 5 illustrates the results obtained by each econometric processing method. Section 6 closes with some considerations.

## LITERATURE REVIEW

The procyclicality of the financial system and the subsequent variation in credit provisions is an endemic phenomenon, regardless of capital requirements (Lowe 2002; Amato and Furfine 2004).

Capital regulation should impact financial stability, both by discouraging banks from taking excessive risks—though empirical analyses have not reached a unanimous conclusion in this regard—and by allowing them to better absorb losses. Gambacorta and Mistrulli (2004), for instance, observe that well-capitalised Italian banks have been able to preserve their relations with clients by better absorbing the temporary difficulties of parties that relied on them in the period 1992-2001. The analysis conducted by Kapan and Minoiu (2013) reveals that, when faced with market-related shocks, banks that had a lower financial lever reduced their loans to a lesser degree than others. Extensive literature has focused on the progress of the credit offer after the enforcement of stricter capital requirements. Francis and Osborne (2012) observe that the gap between the current and the desired capital ratio has significant negative consequences on the credit offer. Aiyar et al. (2014) test whether the variable capital requirements enforced by the British regulator have any effects on the credit offer. They provide evidence that banks subjected to stricter capital requirements reduces the growth rate in real lending. By analysing the loans provided by French banks during the transition period from Basel I to Basel II, Fraisse et al. (2015) measure the variation in credit provided to companies based on capital requirements, and estimate that a 1% increase in capital requirement entails an 8% reduction in loans. Instead, some studies identify positive relations between capital requirements and the credit offer. In particular, Bernanke and Lown (1991), and Berrospide and Edge (2010) detect a slight increment for US banks when they estimate the impact of capital on the progress of loans. Several analyses enhance the fact that relations between capital requirements and the credit offer are not linear. Albertazzi and Marchetti (2010) underscore the fact that only the credit offer made by Italian banks has become stricter with a low capital endowment during the crisis period 2008-2009. Carlson et al. (2013) show that the variation in capital ratio has a greater impact on loans when it is low, rather than when it is high. Bridges et al. (2014) use an extensive dataset from the Bank of England for the period 1990-2011. The study shows that the variation in capital requirements triggers heterogeneous reactions in terms of credit offer related to the various economic sectors.

Relatively few studies have focused on the possible effects on the credit offer resulting from the adoption of internal rating systems, and are mostly based on simulations as the actual data were not available at the time. Carling et al. (2002) suggest that adopting internal rating systems for the leading Swedish banks in the period 1994-2000 would have increased their sensitivity to the credit risk of minimum capital, and enhanced the procyclical trends of the banks. Altman et al. (2005) state that the procyclical effects of the Basel II Agreement can be stronger when the banks use their own LDG estimates (Advanced IRB). Catarineu et al. (2005) claim that the banks prefer to implement internal rating models following the point-in-time approach because it is more precise, rather than the through-the-cycle approach, which is less procyclical. Repullo and Suarez (2008) claim that the banking industry

uses internal point-in-time ratings, which entail a capital endowment that is closer to the actual riskiness of the portfolio. An international comparison, conducted on the budgets of 1,380 banks in 76 countries provided by Bankscope, underscored the fact that, in terms of aggregate, during the 2007-2012 crisis, the adoption of the Basel II Agreement had no impact on the credit offer for companies. But subsequent tests reveal that the interaction between the implementation of new requirements and the size of the banks entailed a growing reduction in loans as the size of the providers increased. In particular, 20% of the leading banks had implemented a more than 3% credit crunch. The authors attribute this result to the fact that the larger banks prevalently relied on internal rating methods rather than on the standard one (Mascia et al. 2015). The latest literature that analysed the capacity of scoring techniques and/or of the framework of the Basel II to assess the riskiness of the portfolios is prevalently consistent in expressing negative opinions. Berger et al. (2005) have underscored the fact that the automatic use of these procedures entails higher default rates of loans granted than those experienced by the banks that use scoring techniques in a complementary manner to other tools. The authors deem that the automated processes encourage an increase in credit provisions to marginal clients, who are more profitable but also more risky. Once again Berger et al. (2011) observe that the scoring techniques to grant credit to small companies are associated with an increase in the funds provided but is unable to influence the quality of the loans portfolio. According to De Laurentiis and Maino (2010), the underestimation of the default rates is due to problems of calibration and assignment of IRB models, and to the indiscriminate use of the same model for different purposes. The excellent properties for a rating system for management purposes contrast with those hoped for in an IRB for regulatory purposes.

## STATISTICAL DESCRIPTION OF THE SAMPLE

The sample is an unbalanced panel made up of 89 Italian commercial banks that formed joint-stock banks, and which conducted business, without interruption, during five years (2010-2014). It was decided to narrow the analysis to the sample of only joint-stock banks because, despite the small number of subjects observed, it is the group that most represents the dimensional variety of the Italian banking system. Conversely, the analysis of the whole banking framework would have entailed the inclusion of hundreds of cooperative credit banks that, by their very nature, do not use the IRB methods, thus attributing an excessive weight to minor banks and subsequently affecting the significance of our results. Subjects to be observed were chosen starting from the Association of banks authorised to work in our country. The Association was established by Banca d'Italia, and included 172 joint-stock banks on 31 December 2014. Only 96 of these were classified as commercial banks and acknowledged as fully operative between 2010 and 2014. Finally, after removing subjects who

presented an abnormal progress of the “credits” variable mainly due to the new entity established during the five-year period examined, the above sample of 89 banks was defined. Before discussing the temporal evolution of the key variables of our econometric analyses, it can be useful to discuss, in detail, the knowledge of the main morphological characteristics of banks that form the panel. To this end Table 1 offers a photograph of the sample taken on 31 December 2014 and compared with that of the entire Italian banking system on the same date.

	Sample	System	Representativeness of the sample
No. banks belonging to a group	66	150	44%
No. independent banks	23	513	4%
No. desks	17.931	30.740	58%
No. employees	185.051	299.684	62%
Deposits	683.290	1.369.230	50%
Loans	887.018	1.754.322	51%
Non-performing loans	98.461	197.127	50%
Deteriorated credits	178.578	349.763	51%
Active total	1.543.305	2.957.103	52%
Assets	135.646	214.210	63%

Table 1 – *The sample vs. the Italian banking system: organisational, dimensional and operative aspects on 31 December 2014 (data in millions of euro)*

	2010	2011	2012	2013	2014
Credit to clients:					
gross total exposure	998.461.827	1.007.227.633	1.065.173.625	1.007.807.489	960.968.936
Mean	12.176.364	11.711.949	12.104.246	11.323.680	11.045.620
Median	1.895.097	1.790.393	1.735.073	1.674.826	1.780.901
Min	29.839	42.756	38.079	34.545	38.842
Max	262.865.775	268.146.698	276.852.238	254.614.044	244.507.407
stdev	38.597.248	37.646.230	40.391.058	37.215.537	34.940.481
Credits to deteriorated clients:					
gross total exposure	89.475.243	104.302.970	130.517.985	155.529.235	178.578.318
Mean	1.091.162	1.212.825	1.483.159	1.747.519	2.052.624
median	114.075	149.146	193.025	229.015	256.831
min	20	20	0	1.469	3.054
max	26.604.519	31.317.032	39.247.107	45.567.704	48.362.679
stdev	3.583.849	4.078.915	5.061.914	5.959.294	6.811.383
Quota of deteriorated clients on total credits to clients					
mean	7,75%	9,24%	12,15%	15,33%	17,76%
min	0,02%	0,01%	0,00%	1,45%	1,36%
max	26,71%	26,33%	32,12%	40,31%	45,54%
Memorandum: system data	9,9%	11,2%	13,5%	15,9%	17,7%

Table 2 – *The dependent variables: some descriptive statistics (data in thousands of euro)*

Table 3. Let us now explore the evolution of the key variables of our model in the course of the five-year period 2010-2014 with the assistance of some descriptive statistics. In the first place, data in Table 2 show a rising progress of the credit portfolio until 2012 (+6.5% compared to late 2010,) followed by a



clearer crunch for two years (overall -10% in the period 2013-2014). Analysing the individual descriptive statistics, we notice an increase, however small, in the median data in 2014 after four years of an uninterrupted slump (that is further confirmed both in the greater value of the minimum exposure and in the lower value of the maximum one), while the variability of the credit portfolio, compared to mean data, shows a fluctuating progress in the course of the five-year period, reaching its lowest in 2014. Conversely, the progress of deteriorated credit features a positive trend throughout the entire period analysed, both in absolute terms and in relative terms, and all the statistics describe a growing phenomenon that gives due reason for concern.

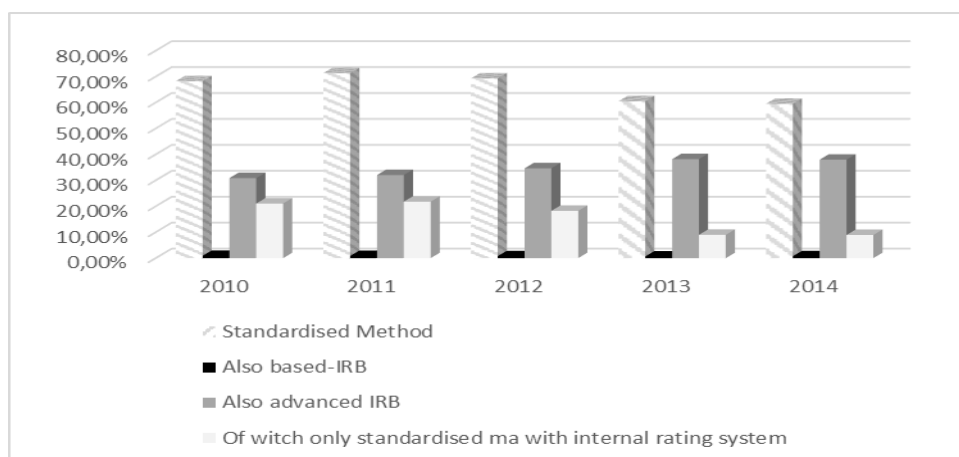


Figure 1 - *Evolution of systems adopted to measure the credit risk (data by portfolio quotas)*

To ascertain whether, during the 2010-2014 recession, the use of internal rating systems could have emphasised the credit crunch phenomenon, compared to the adoption of standard risk measurement systems, and also to test the greater reliability of internal ratings, compared to more discretionary methods, the multivariate analyses carried out on the sample of 89 commercial joint-stock banks were performed using as main independent variables the adoption or not of a validated internal rating system as a precautionary supervisory tool, namely the application of an internal rating system only for management purposes. Figure 1 completes the statistical description of the above banks in terms of methods adopted to measure exposure to the credit risk, the counterpart and the subsequent allocation of capital. To ensure correct interpretation of the results, the graph presents the distribution of risk measurement systems on the total portfolio, instead of by number of banks.

## METHOD

Regarding the first research question, namely the assessment of the impact of greater “industrialisation” of the credit providing process on the volume of loans provided by the bank—the dependent variable used is the annual percentage variation of loans allocated to clients.

The main independent variables considered include:

- a) The adoption of an internal rating system that is validated for precautionary supervisory purposes - the expected sign of the variable is negative. We expect a bank that has a structured and quantitative system to measure the credit risk to become stricter regarding loan provisions at a time of crisis in order to face an aggravation of the economic-asset indices of clients. The variable is developed in three versions, precisely a dummy version with value 1 associated with the presence of a validated rating system (DUMMY\_IRB); a percentage value that is equal to the exposure quota that is assessed through the IRB method, rather than through the standardised one (PESO\_IRB); two percentage values equal respectively to the exposure quota assessed with the basic IRB method and with the advanced IRB method (PESO\_IRB\_BASE and PESO\_IRB\_AV). The subsequent adjustments of the variable allow to represent not only the presence of an internal rating system but also the progressive extension of the degree of use and of the complexity of the IRB method at growing quotas of the credit portfolio.
- b) The adoption of an internal rating system only for management purposes (RATING\_SOLOGEST) - the expected sign of the variable is once again negative for the same reasons stated in the previous point. But, in this case, we expect relations to be less clearly defined because a non-validated rating system can more easily contain a more intense qualitative component or envisage a lesser degree of automation applied to decisions regarding loan provisions.
- c) The capital strength of the bank, measured through the total capital ratio, recorded during the last year (TCR) or the previous one (LAG\_TCR) - the expected coefficient of this variable is positive, since the banks presenting the highest capital strength should be more inclined to expand the uses or at least to contrast them less. The tier 1 ratio, recorded both in the year examined (TIER1) and in the previous one (LAG\_TIER1), and the equity multiplier (EM), calculated as ratio between the active total and the net assets, were also used as an alternative to the total capital ratio, always to indicate the degree of capital strength of the bank. The latter indicator, which is purely based on accounts and on active weighting, allows to purify the effect of the risk measurement method adopted on the assets indicator.
- d) The weight of deteriorated positions on the total exposure to clients, once again recorded for the current year (DET) or for the previous one (LAG\_DET) - the expected coefficient is negative in this case. In fact, we expect a bank that puts the credit obligation on non-accrued status to become highly selective by narrowing loan provisions to a greater extent.
- e) The variation in deteriorated cases during the year (DELTA\_DET) - the expected coefficient is negative since it is reasonable to expect a bank, faced with an increment in the amount of critical cases, to adopt a more cautious attitude towards new loan provisions.

The various analyses have also tested some additional control variables, such as the size of the bank, indicated by the ratio between the active total and the mean value of the sample of banks considered in the specific year (ATTIVO\_MEDIA), the fact that the bank belongs to a group (DUMMY\_GRUPPO), the profitability level of management, measured in terms of return-on-assets (ROA), and the quota of corrected deteriorated positions (NETTO\_LORDO). Moreover, regressions have all been estimated with fixed temporal effects to take into account a series of common factors of the macro-economic context that have affected the business of the banks considered during the extremely challenging time interval considered.

The second part of the research question will measure the efficacy of IRB systems in the client selection phase, limiting the credit risk. The research theory is based on the assumption that, if highly structured and sophisticated systems ensure a more precise assessment of the riskiness of providing loans, they should allow a better quality composition of the credit portfolio. Hence, we expect the banks that adopt validated internal rating systems to present a lesser burden of deteriorated cases, compared to banks that use the standard measuring system. The analysis of relations between IRB systems and the quality of credit portfolios was conducted by taking into account both the stock and the gross deteriorated credit flows to clients, within which context non-performing loans play a considerable part. The dependent variable was, therefore, developed in four versions, namely the logarithm of the gross deteriorated credit to clients (LN\_DET); effect of deteriorated credit on total credit to clients (INCID\_DET); the decay rate of deteriorated credit (TASSO\_DEC\_DET); and the decay rate of non-performing loans (TASSO\_DEC\_SOFF).

The main independent variables considered include:

a) The adoption of a validated internal rating system (PESO\_IRB), measured by the ratio between the exposure quota to the credit risk (gross credit to clients) assessed with IRB methods and the overall exposure. The expected sign of the variable is negative, since the statistical-quantitative measurements should lead to more precise assessments of the potential borrowers and to the choice of less risky clients. The same variable was also tested in the dummy version (use or not of IRB systems), consistently with what was done for the first research question.

b) The adoption of an internal rating system for management purposes (RATING\_SOLOGEST), to verify whether, even without validation, the internal models affect the overall quality of the credit portfolio. the expected sign of the variable is once again negative for the above reasons.

c) The size of the bank, given by the logarithm of the active total (LN\_ATTIVO) or by the ratio between the active total of the bank and the mean of the system for the reference year (ATTIVO\_MEDIA). We expect the regressor LN\_ATTIVO to be positive, since, reasonably, the leading banks have overall exposures in absolute value that are more consistent. Instead, a negative sign is

expected for the ratio (ATTIVO\_MEDIA) because smaller banks should be more exposed to the economic cycle and suffer a lesser diversification of the portfolio, thus recording a budget with a higher incidence of deteriorated credit.

d) The profitability of the bank, expressed by the typical profitability indicator (ROA), whose expected sign is negative, since higher profitability should lead to containment of the deteriorated credit. An additional variable was then tested, given by the ratio between the margin of interest and the intermediation margin (MIS\_MIN). It allows to gauge the contribution given by loan provisions to typical profitability. In this case the expected sign is positive, since a bank that is more oriented to the traditional activity of credit intermediation is naturally more exposed to the credit risk. However, there is another possible explanation. The positive sign might, in fact, also be justified by a higher interest margin resulting from the bank's position in a client category that is more risky and which, in adverse conditions, generates a more significant deterioration of exposure.

e) The fundraising policy (or the liquidity status) of the bank, summarised in the ratio between credit provided to clients and deposits made by clients (LOAN\_DEPO). This variable proposes to detect the relations between resorting to deposits as a source of stable and non-burdensome supplies and the caution/aggressiveness of the loans policy. The variable is expected to be positive. In fact, we expect the fundraising capacity on the markets and, hence, the lesser dependence on deposits, to increase the resources available and allow credit expansion. The greater exposure, in periods of prolonged economic crisis, such as the ones studied, leads to an increase in credit-related 'diseases,' since the beneficial effect of diversification is deficient, even when it is present. Besides the above variables, a series of other factors that are, however, not significant, were then tested. These include the level of capital strength of the bank, measured in terms of net assets, of supervisory capital requirement, and being part of a group, either Italian or foreign. Instead, taking into account the macroeconomic factors of the context, which have affected the credit-related activities of banks and the growth of deteriorated exposures, regressions were conducted with fixed temporal effects as in the first research question. Finally, since it has become necessary to manage the outliers, 2% of extreme observations were winsorised, corresponding to values that are about 3 standard deviations away from the mean.

## RESULTS

Table 3 summarises the most interesting results of the analyses performed regarding the volume of loans. Consistently with expectations, a first result is the strong negative correlation between the burden of the deteriorated positions and the rate of variation of the credit portfolio. In fact, it is quite

reasonable for a bank that is burdened by non-performing loans to limit the provision of new loans more intensively than a competitor who presents a portfolio that is less deteriorated overall, especially in an extremely negative economic moment. The variable that measures the variation in deteriorated positions during the year is also negative and strongly significant. Hence, a sudden increase in problematic positions leads the bank to implement a credit crunch. The reduced provision of new loans could also be combined with the effect of sales of quotas of the loans portfolio through securitisation operations to recover liquidity. Unfortunately, considering the database available, we are unable to distinguish the two effects. Instead, regarding the degree of capital strength, the variable is not significant in any of the alternative specifications adopted. This applies both whether we consider the regulatory indices—total capital ratio and tier 1 ratio—and whether we use an accounting measure, such as the equity multiplier. The question slightly changes if, along with the total indicator, we were to introduce a mean square deviation. In this case, the degree of capital strength is positively related to the variation in the portfolio of credit provided to clients. But the negative mean square indicates that, above a certain level, the additional availability of assets does not have a positive effect on the loans policy. We must also note that the statistics of significance of coefficients are rather low for both variables. Regarding the impact of the risk measuring method adopted, all cases confirm that the adoption of a validated internal rating system is negatively related to the variation in credit provided to clients. The effect is already obvious when we consider, in case (1), the phenomenon dichotomously by comparing banks that have applied a validated internal rating system against those which, instead, only use the standardised method for the regulatory assessment of exposure to the credit risk. The link is more obvious if we consider the quota of assets that is evaluated by a basic and advanced IRB method, respectively. Indeed, it must be said that the risk assessment performed with internal methods rarely involves the entire loans portfolio. Generally, a quota of the assets is, anyhow, assessed with the standardised method, while a part, which usually increases in time, is evaluated with internal methods. In cases from (2) to (4), we note that both the variables IRB\_PESO\_BASE and IRB\_PESO\_AVANZ are strongly significant, and present the expected negative coefficient. The progressive extension of the assessment through internal rating at growing quotas of the portfolio is accompanied, during an economic crisis, by an enhanced credit crunch. Observing the value of the coefficients of the two variables, we notice that the stronger effect is related to the weight of the basic IRB. Always concerning the topic of risk assessment methods, the adoption of an internal rating system for purely management purposes, hence without applying regulatory validation, has no statistically evident effect on the variation of credit provided to clients, though the coefficient of the variable presents the expected sign in all the proposed cases. Said evidence can be explained by saying that, in order to be validated, an internal rating system must be actively inserted in the organisational procedures of the bank, and must

not be a mere risk measurement tool. Hence, it is natural that loan provision policies are closely related to the formulated credit rating assessments in a bank that adopts the IRB method, while the association can be less binding in a bank that adopts the system only for management purposes, and not for regulatory ones.

	(1)	(2)	(3)	(4)
TCR	0.01 (0.11)			
LAG_TCR		0.003 (0.51)	0.22* (1.75)	
LAG_TCR^2			-0.02* (-1.76)	
LAG_TIER1				0.39* (1.86)
LAG_TIER1^2				-0.02* (-1.86)
DET	-0.62*** (-5.93)			
LAG_DET		-0.40*** (-2.51)	-0.39** (-2.52)	-0.37* (-1.79)
DELTA_DET		-1.42*** (-3.17)	-1.44*** (-3.13)	-1.46*** (-3.09)
RAT_VAL	-0.06*** (-2.69)			
IRB_PESO_BASE		-0.28*** (-3.39)	-0.22*** (-2.60)	-0.20** (-2.36)
IRB_PESO_AVANZ		-0.07*** (-2.87)	-0.06** (-2.30)	-0.06** (-2.30)
RAT_SOLOGEST	-0.02 (-0.74)	-0.02 (-0.94)	-0.01 (-0.59)	-0.016 (-0.76)
ATTIVO_MEDIA			-0.004** (-2.25)	-0.004** (-2.17)
ROA				-0.414 (-0.63)
GRUPPO				0.01 (0.35)
NETTO_LORDO				0.06 (0.28)
No. Observations	341	341	341	341
R square	0.159	0.179	0.209	0.219

Table 3: *The determinants of the variation in the credit portfolio for clients*

Analysing the additional control variables entered, the only one that is significant is ATTIVO\_MEDIA. The sign of the coefficient is negative, thus configuring a more intensive credit crunch on the part of larger banks. A check of the level of correlation between this variable and the measures related to the dissemination of internal rating systems has yielded comforting results. It is interesting to note that, despite the addition of a check on the dimensional factor, variables related to the level of sophistication of the credit risk management system still remain significant. Moreover, both the value of the coefficient and the t-stat remain more or less unchanged. This removes the doubt that the variables in question mirror purely dimensional factors, and that the size of the bank, gauged by its overall assets,

can be the main decisive factor that affects its attitude to credit during a crisis. To ascertain the robustness of the results obtained, the regressions were repeated by using the variation in gross exposure to clients as dependent variable, rather than the variation only in the loans portfolio. It must be said that the overall exposure also contains the securities portfolio. The results confirm the negative coefficient associated with the variables IRB\_PESO\_BASE and IRB\_PESO \_AVANZ. From this standpoint the variable RATING\_SOLOGEST also becomes significant with the expected negative sign. Moving on to the second research question, namely the relations between IRB systems and the riskiness of the credit portfolio, the main results of the analyses are summarised in Table 4, in which every column represents the model tested on each of the four dependent variables used. All analyses indicate a positive association between the use of the validated internal rating systems and the worst quality of the credit portfolio for clients. The sign of the ratio gives rise to questions and doubts regarding the actual superiority of statistical-quantitative models in measuring the credit risk. This evidence is further confirmed by observing the variable dummy RATING\_SOLOGEST that is positive and presents a strong statistical significance. Hence, not only the adoption of validated IRB models but also the use of an internal rating system only for management purposes has a positive impact on the volume of non-performing loans, confirming the ineffective protection offered by non-standard systems against the credit risk. Relations between IRB methods and deteriorated credit are further explored by adding a series of bank specific control variables, and separating the analysis of the entity of the credit from that of flows. Considering, in the first place, the stock of deteriorated cases, represented as logarithmic value in column (1) and related to the total credit provided to clients in column (2), the size of the bank and its profitability are significant, thus confirming the results reported by previous literature. In detail, it is interesting to observe not so much that larger banks detain the larger volume of deteriorated loans (LN(ATTIVO)), but rather that the deteriorated volume grows as the bank's size diminishes. The negative sign of the independent variable (ATTIVO\_MEDIA) confirms expectations regarding the greater exposure to the economic cycle and the lesser diversification of the loans portfolio of smaller banks. The impact of typical profitability (ROA) presents the expected sign, underscoring reverse relations between credit deterioration and profitability. When it is measured in terms of impact of the interest margin on the intermediation margin (MIS\_MIN), the coefficient acquires a positive sign, confirming the initial theories. In fact, we expected a greater inclination of the bank to provide credit and/or an increase in the riskiness of the clients served, who are applied higher rates of interest, to elevate the exposure to risk and, hence, the presence of higher deteriorated amounts in the budget. Finally, the last variable of the model, namely the association between loans and deposits (LOAN\_DEPO), measures the impact of the liquidity of funding sources on the quality of loans. The sign is positive and consistent with expectations, and statistical significance is strong. Hence, credit

deterioration grows as fundraising sources other than deposits increase as a result of the probable causes already mentioned in the description of the regressor. Moving on to the flow analysis, columns (3) and (4), respectively, report the determinants of the variation in the decay rate of deteriorated credit provided to clients and in the decay rate of non-performing loans. Observing the data in Table 4, we can briefly say that all relations described above in the stocks analysis remain, with the related coefficient signs and statistical significance, thus validating the robustness of the results obtained.

	(1)	(2)	(3)	(4)
	LN(DET)	INCID_DET	TASSO_DEC_DET	TASSO_DEC_SOFF
PESO_IRB	1.15*** (7.32)	0.06*** (4.99)	0.02*** (3.76)	0.009*** (2.72)
RATING_SOLOGEST	0.38*** (2.80)	0.02** (2.48)	0.008* (1.67)	0.004* (1.88)
LN(ATTIVO)	1.04*** (29.25)			
ATTIVO_MEDIA		-0.001** (-2.58)	-0.001** (-2.0)	-0.002* (-2.01)
MIS_MIN	1.33** (1.92)			
ROA		-1.13*** (-2.77)	-0.71** (-2.53)	-0.11 (-1.15)
LOAN_DEPO	0.04*** (5.09)	0.003*** (8.84)	0.001*** (5.93)	0.001*** (4.27)
No. observations	424	425	427	427
R square	0.80	0.31	0.14	0.32

Table 4: *The determinants of consistency and variation of deteriorated credit to clients*

## CONCLUSIONS

The application of a validated internal rating system is negatively related to the variation in credit provided to clients, and positively associated with the riskiness of the loans portfolio. Regarding loan-related variations, the effect is already evident when we consider the phenomenon dichotomously by comparing banks that have a validated internal rating system against those which, instead, only use the standardised method, and when we consider the quota of assets assessed respectively with the basic and advanced IRB method. Econometric analyses also reveal that the credit crunch was more evident in larger banks. Our study provides empirical evidence of the procyclical nature of internal ratings in the period 2010-2014. Regarding the second question, all the econometric analyses indicate a positive association between the use of validated internal rating systems and the worst quality credit portfolio for clients. This challenges the presumed superiority of statistical-quantitative models in measuring credit risk. Said evidence is further confirmed by observing the variable dummy RATING\_SOLOGEST that is positive and presents strong statistical significance. Hence, not only the use of validated IRB models but also the application of an internal rating system only for management purposes has a



positive effect on the volume of non-performing loans, confirming the ineffective protection offered by non-standard systems against the credit risk.

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## THE RELEVANCE OF MARKET ANALYSIS IN UNIVERSITY SPIN OFF CREATION: A CASE STUDY

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### ABSTRACT

The third mission of universities has assumed a strategic role and primary importance in governance policies both in Europe and worldwide. Although the question has raised interest around topics such as technology transfer and university (academic) spin-offs, the scarcity of available financial resources and traditional university culture haven't reached the optimization of the potentialities related to this type of activities yet. The aim of this work is to investigate the phenomenon of USOs through an in-depth analysis of the related literature and offer a case study analysis. Analyzing the process of creation we want to underline how the analysis of potential customers is an essential element in the phase of creation of university spin-off. In literature the process of creation is limited only to promote a business plan implementation, but often this is just a descriptive document and not inclusive of the required customer analysis. This can cause the incorrect initial analysis of the USO and lead to failure of the initiative. The case study allows us to demonstrate how a correct analysis of potential customers can influence and be crucial to the proper strategy setting.

**Keywords:** *spin-off, academic research, innovation , cluster analysis, customer , entrepreneurship, business plan.*

### 1. INTRODUCTION

Modern economics is based on an information and knowledge systems. By consequence success is increasingly related to innovation and technology transfer, main strategy elements for the development of economics. Growing attention has recently been granted, in fact, to spin-offs (especially USOs). The term spin-off refers to the creation of new economy units run by individuals previously working in other companies or other existing institutions. The two aspects characterizing factors of a spin-off are: the support for the creators of the new business companies and the process through which a spin-off is made. The essence of a spin-off is to help an aspiring entrepreneur to transform an idea, a potentiality, a technological or market opportunity of production, that someone else does not or cannot use in commercial terms, into a new company. USO is a company established by a group of researchers, professors or PhD students. It is a start-up company whose formation depends on the formal transfer of Innovation, Entrepreneurship and Digital Ecosystems

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intellectual property rights from the university and in which the university holds an equity stake (Wright M. et al. 2006). So USOs can help to better the relationships between universities and business companies to improve knowledge transfers and become competitive. In the present case study we first introduce the main characteristics of university USOs and its related national and international literature; secondly, we present one case study of Tuscia University to underline the creation process, in its following steps, and to understand the importance of analysis of potential customers for the feasibility of the project. Often these initiatives forget having to operate in a market, and focus on the aspects of research and technology transfer, forgetting consumers and analysis of potential demand (De Cleyn et. al, 2013) It aims to show how the study of potential customers can be a key tool to check the feasibility of the project. The analysis can be crucial for the preparation of an accurate business plan.

## **2. UNIVERSITY SPIN-OFFS: A TECHNOLOGY TRANSFER INSTRUMENT**

Universities have always played a central role in the process of transferring knowledge and technologies to the industrial sector, especially important for regional development policies. One of the most relevant aspects analyzed in literature concerning the USOs is the definition of their issues. There are not, in fact, any clear frameworks for USOs, and researchers often use the same approach for studying and describing different realities. Some authors defined the topics (Weatherstone 1995; Steffensen et al. 2000; Clarysse et. al 2004). In the present paper we'll define USOs as new companies created by universities to develop knowledge resulting from academic research into a profit making activity (Klofsten, et. al 2000). When we refer to USOs, we want to underline the following features (Klofsten et. al. 2000): a new company independent from the university, with a separate legal identity, and created by the university - thus excluding all other research organizations or institutions – aimed at the development of the results arising from academic research, not just patentable results, but also all technical and scientific knowledge acquired during the academic activity, whose aim is to obtain profits. This allows us to exclude all other non-profit activities. Another topic emphasized in the literature is the creation process of USOs (Clarysse et. al., 2004 ; Degroof et. al., 2004; Lockett et. al. 2002; Ndonzuau et. al., 2002). All the authors describe the creation of a USOs as a set of steps each of these characterized by one or more documents or a bureaucratic compliance. In particular, in in each process described by the authors, the main document is the business plan that is regarded as the guide for USOs's start-up. Analyzing literature we can say that the business plan is considered a key tool with a strong link with the business success of the initiative (Bracker et. al., 1998; Castrogiovanni, 1996; Timmons et.al, 1985). In this process the Technology Transfer Offices (TTO) have a key role (DeGroof et.al, 2004; Lockett and Wright 2005) . These support proposers with all the skills and tools you need when starting the spin-off.

### **3. FROM INNOVATION TO A NEW PRODUCT: EVIDENCE FROM TUSCIA USOS.**

The University of Tuscia in Viterbo began to create spin-offs in 2007. To be approved, the USO idea has to pass several steps. These are the three phases inspired by Clarysse and Moray's process (2004): pre-incubation phase; incubation phase and post-incubation phase. The Pre-incubation phase is focused on the organization of support activities and on all the information for the development of an action plan. The Incubation phase is the central step of this process and it is the most important one. The business plan is drafted and the link between USOs and University, in particular with the Department of Economy and Management, that is strategic to acquire all necessary skills to manage a business company. However, the process not given specific details of the business plan, and the planning is thorough qualitative and not by specific market analysis. For the purposes of our analysis, we consider that at this stage there is an information gap on market characteristics and potential customers. This is the stage in which plays an important role in the TTO. The Support to the business plans is one of the fundamental tasks of TTO. Fundamental importance It is the analysis of the potential customer and the reference market, as will be seen from the analysis of the case study. Finally, in the Post-Incubation phase, the USO is ready to start its activities and to sell goods and services. The approval of the University organs, through a parallel process to the one described, allows the start of the spin-off. They approve the USO based on the description of the activity and the details of the business plan.

#### *3.1 Case study analysis and market analysis*

We present a case of a spin-off of the University in which the analysis of potential customers has been suggested as the basis for the elaboration of the business plan. We want to demonstrate how the results have led deep considerations in the strategic plan set by the proponents thanks to prior knowledge of potential consumers and their preferences. The case study is about a proposed USO of the department of Agriculture. For a better definition of their business goals and the preparation of the related strategies, all companies must know the characteristics, the needs of their potential customer behavior (Bracalente et al. 2009). One of the most critical points is, in fact, the definition of a strategic plan of the entrepreneurial activity and obviously the identification and selection of the "clusters of clients" to serve (Valdani 1986). Since both the characteristics and behaviors will be surely characterized by a more or less percentage of heterogeneity, new strategies especially aimed at the different typologies of potential customers will be necessary (Fabbris 1997; De Luca 2006; Molteni and Troilo 2007; Bracalente et al. 2009). The joint use in modern markets of the price lever with other market levers (product, packaging, communication and distribution) allows a differentiation that can justify the price difference. Stretching the limits of this perspective, each potential consumer should be studied as an

independent segment, because bearer of specific needs, and become object of specific market strategies. This option, though, is impossible to put into practice in most of the cases, because the costs of such operation could exceed by far the benefits for the company. So, they are brought together in the same segment of demand, a sufficient number of potential customers, to assure an adequate profitability. The more similar the segments, the higher the probability that once they have become the object of the same marketing strategy, the different units will respond in the same way. In other respects, the requirements for those in charge of preparing those strategies are, on the contrary, to limit the number of segments in order to reduce the strategic alternatives and, by consequence, the costs. From an applicative point of view it is possible to distinguish between two patterns of market segmentation: homogeneity segmentation, chosen for the present case study with a traditional approach, and the goals of market segmentation. Homogeneity segmentation with traditional approach uses the group practices of analysis (cluster analysis), possibly preceded by factor analysis in order to summarize variable choice macro-elements. In the present survey we have not used applied factor analysis since the referent variable of cluster analysis was only one. Cluster analysis is then a method of automatic classification in homogeneous and uneven groups usually used in marketing strategies to support both strategic and operational decisions (De Luca 1990; De Luca 2006; Molteni and Troilo 2007). Among the many types of the known strategies we can mention: (i) segmentation analysis and customer behavior analysis; (ii) development and research of opportunities for potential new products; (iii) problem solving evaluation instruments related to the choose of area sampling. In the present survey cluster analysis has been used in order to determine the sociodemographic and behavioral characteristics of potential customers in relation to a new product: the apple with red flesh. Main goal of our survey was to understand consumers real needs and expectations from the gathered opinions and answers this new variety of apples.

### *3.2 Methods*

The data of the present survey were collected in the week between the month of May (30-31) and the month of June (1-4) 2012 at a hypermarket located in the city of Viterbo where a questionnaire was handed out to customers (direct interview and self-administered questionnaire). The difficulty in identifying unambiguously the exact population of the customers of the hypermarket produced, as it usually happens in market surveys, the adoption of a non probabilistic sampling method and in particular of accidental sampling. The sample of the respondents was of 514 individuals. The whole phase of data collection was completed within one week and in different time slots of the day, in order to guarantee on one hand a certain homogeneity of the conditions of the data gathering (that could not be respected in the case of longer time slots data gathering), on the other, to obtain the best

representative sample of hypermarkets customers. As already explained, the tool used in our survey was a questionnaire divided into three main areas of analysis: (i) customer profile; (ii) customer behavior; (iii) consumer consumption habits and level of interest in the new product, the apple with red flesh. Consumer response modalities concerning purchase behavior and consumption propensity and level of interest in the new product, were structured on the basis of a Likert scale, with a score assigned by the respondents, between 1 and 6, where 6 was the highest positive response (very much) and 1 the least (not at all). For our survey we preferred an even scale to an uneven one. Our aim was, in fact, to make a neat distinction between those interested and those showing propensity for consumption (or those that gave a score of 4, 5 and 6), and the cluster of the not interested (those who gave a score of 1, 2 and 3), avoiding that respondents would choose a non-response option showing indifference to the choices they were asked to make. The questionnaire was composed of 6 closed questions with the Likert scale from 1 to 6, related to consumer purchase behavior of the apple in general; 3 relative to customer propensity to consume and the level of interest of the respondent both in the new product and its by-products; 3 dichotomous questions in the part of general purchase of apples necessary to develop the stratifications sample; 3 closed questions with multiple choice; 2 in the section of the analysis of the level of interest for the new product and 1 on the general purchase and, finally, 3 single choice questions about the customer profile. The data processing of the survey was made using tools of simple statistics, such as the average, both applying the instruments of multivariate statistics such as Cluster Analysis. The cluster analysis enables us to identify groups of consumers according to preference and define variables (Keen et al., 2004), measure of distance, relatedness, or similarities between importance ratings or utility measures (Aldenderfer and Blashfield, 1984). The effectiveness of the cluster analysis has been widely demonstrated in literature (Johnson, 1967; Park and Baik, 2006;) particularly for understanding the food consumption behaviour (Sahmer et al., 2006; Visschers et al., 2013; Müller and Hamm, 2014; Walthouwer et al., 2014). First goal of our survey will be to describe the sample, and on a later stage, we will analyze the relationships between the variables. The elaborations of multivariate statistics were obtained using the “STATA Statistics/Data Analysis, 12” software (www.stata.com).

### *3.3 Findings and discussion*

59% of the respondents was female, the remaining part 40.1% was male. It must be said that the age of most part of the respondents was between 18-33, even if large part of the responses were also given by individuals between 42-49 and over 57. The resulting percentages were: 3.7% under 18; 24.4% 18-25, 16% 26-33, 3.5% 34-41, 15.8% 42-49, 10.9% 50-57, and finally 15.6% over 58. As for their professions the percentages were: 24.6% students, 19.9% clercks, 7% teachers, 3.7% female shop assistants, 5.1%

workers, 13.1% housewives, 2.9% entrepreneurs, 1.9% artisans, 4.1% unemployed, 10.3% retired and the remaining 7.4% other (self-employed, soldiers). The collected data concerning general information about the consumption of apples and by-products, highlight consumers' habits and customers purchase preferences. It is possible that a closer analysis could lead to a more favorable knowledge of their taste, degree of satisfaction and consumption relevant attributes. 72.5% of the respondents consume apples. Of them 72.2% know their nutritional properties while the remaining 27.8% though consuming the product, totally ignore their nutritional properties. The variety of apple mainly purchased and consumed is the Golden delicious, preferred by 29.9% of respondents, followed by red Golden, 17.7%, Fuji 16.6%, Annurca 14%, Pippin 11.3%, Emperor 5.3%, and the remaining varieties not specifically indicated 5.3%. At a later stage, the respondents were asked what by-products of the apple they usually buy. For the question we used a Likert scale in order to understand, for a more accurate analysis, the frequency of purchase of these products, indicating with 1 the non-consumption and 6 a high consumption of the product. The dominant preference attributed to the consumption of a singular product (yogurt, jam, apple juice, apple vinegar, candies, baby food, jelly, cider) was 1, no propensity to purchase, with some minimum interest in yogurt, apple juice, and vinegar. The characteristics chosen for the analysis of purchase behavior concerning the apple, have been divided into two groups: in the first group we considered those factors, especially exogenous factors, influencing the purchase (brand, price, quality, publicity, offers and type of apple); and in the second group, we referred to the technical characteristics of the product apple (color of the skin, appearance, sweetness, crunchy flesh, acidity and floury flesh). The data analysis shows that the characteristics influencing the purchase of the first group is quality (average value 5.01%, type of apple (4.4%), offer (3.84%) and price (3.74%); on the other hand, what seems not relevant is publicity (1.79%) and in large part the brand (2.93). The data concerning the variables publicity and brand, though, are not totally reliable. In the phase of the handing out of questionnaires we realized how many consumers were influenced by publicity/brand though being unaware of the fact. In facts, thanks to the chosen type of interview (direct interview in most of the cases) for gathering the data, we could understand that the respondent at the question "What type of apple you usually consume?", in the correspondent section Other (specify), showed the name of well known brands (revealing the confusion of brand and variety). Paradoxically then, they resulted to be the same respondents attributing a minimum relevance to publicity and brand, as factors influencing their choices during the purchase. As for the second group, instead, we found that the characteristic exerting a major influence on the respondents was the color of the peel (average value 3.92%, followed by the appearance (3.67%), crunchy flesh (3.55%), sweetness (3.50%), flourity (3.25%), and level of acidity (2.83%). The first phase of our survey was aimed at a better understanding of the characteristics of consumption of apples in order to determine, at a later stage, homogeneous clusters of customers

interested in the consumption of the new product, that is the “red apple”. Main goal of the following step was the analysis of customers propensity to consume and their level of interest for the new product, that is the red flesh apple. After a short introduction about the organoleptic properties and nutritional values of the new apple variety, we asked the respondents how many of them had ever heard before of the line “red pulp”. To this question only the 16.2% answered they had, while the remaining 83.3% admitted they had never heard of it. At a following stage we asked, using a Likert scale from 1 (not at all) to 6 (very much), how much they would be interested in trying the new product (Table 1). Dividing, in fact, the sample into “not interested” (those who gave scores 1,2,3) and “interested” (those who gave scores 4,5,6) we notice that the 73.4% of the respondents are interested in the product red flesh apple: 69.2% because curious, 22.4% for its nutritional properties and the remaining 8.4% for its appearance (red outside and inside). Conversely, 26.6% were not interested in the most part because diffident (58.2%), secondly for its nutritional properties (14.5%), and finally for its appearance (27.3%).

	Level of interest in the new product	Influence of the innovative characteristics of the apple in the decision making process
1= not all	12.2%	12.2%
2	4.3%	5.6%
3	10.0%	17.2%
4	23.0%	26.1%
5	24.0%	21.8%
6 = very much	26.4%	17.2%

*Table 1 - Level of interest of new product and Influence of innovative characteristics of apple in the decision making process*

Further, in our survey we tried to understand, how much the innovative characteristics of the red apple, as OGM free product and with high antioxidant properties, would influence interested customers purchase of the new product. Table 1 shows that the innovative characteristics of the product exert a particular influence on customers purchase of the product. The answers given by the respondents, in fact, are to be found in the part of the scale with the highest scores. Finally, once tried the apple with red flesh, the respondents were asked how much, on a Likert scale from 1 (not at all) to 6 (very much), they would be willing to purchase by-products. As already confirmed by previously obtained results concerning the consumption of by-products of the apple in general, the respondents interest on the part of the respondents was very low, especially for cider and baby food. The average values were, in fact: yogurt 2.88%, jam, 2.36%, apple juice 2.95%, vinegar 2.10%, candies 1.95%, baby food 1.57%, jellies 1.71%, cider 1.62%.

### *3.4 Cluster Analysis*



Once determined the sociodemographic and behavioral characteristics of the interviewed sample, and the relationship between those characteristics and the respondents interest to purchase and consume the new product, we turned to Cluster Analysis where respondents were gathered in segments, according to their higher or lesser homogeneity. Main goal of the above mentioned analysis was to understand what clusters of consumers were really inclined to try the new product. For the present survey we used Ward hierarchical clustering method (Fabbris 1997; Bracalente et al. 2009) and the number of clusters was determined according to the Calinski-Harabasz index (Calinski and Harabasz, 1974). Ward hierarchical clustering method is based on the decomposition of total variance within groups and between groups. At every iteration we consider both the sum of all possible pairs, and the pair with lesser variance between groups. This method is particularly used in market analysis, especially in sectors, such as hypermarkets customers whose aim is to find a small group of customers who can eventually become object of targeted marketing activities. Sociodemographical and behavioral characteristics considered in the present case study were: sex, age, profession, knowledge of nutritional properties of the apple fruit in general, and the level of influence of innovative characteristics on purchase decision making, along with quality and price. It would have been more appropriated for the present survey to include the variable Publicity. However we decided to exclude it because during the handing out of questionnaires we realized that many respondents were subconsciously influenced by it. For this reason, considering the low reliability of the data in our possession, it was not included in the present cluster analysis. For the data processing we used the STATA "Statistics/Data Analysis" software and we considered 4 groups according to the Calinski-Harabasz index (Tab. 2)

Calinski/Number of Harabasz	
clusters pseudo-F	
2	1353.62
3	1704.3
4	2811.09

Table 2 –Calinski-Harabasz index

Tab. 3 offers the analysis of 4 clusters in relation to the variable measuring the level of interest of respondents to purchase the new product (the apple with red flesh) and according to the intensity of the correlation function it was possible to define different clusters: "very interested", "interested", "not interested", and "absolutely not interested".

Cluster4	Mean
1 - Very interested	6.000
2 -Interested	4.510
3 - Not Interested	2.699
4 - Absolutely not interested	1.000
Average profile	4.215

Table 3 –Analysis of clusters according to the "interest" variable

cl4	Freq.	%	Cum.
1 - Very interested	134	26.38	26.38
2 -Interested	239	47.05	73.43
3 - Not Interested	73	14.37	87.8
4 - Absolutely not interested	62	12.2	100
Average profile	508	100	

Table 4 –Frequency and Percentages of the 4 clusters

Table 4 shows that the most consistent group, the “interested” 47.5%, followed by the cluster “very interested”, 26.38%, “not interested”, 14.37% and, finally, the “absolutely not interested” 12.2%. Once defined the clusters, we turned to sociodemographical and behavioral characteristics of respondents of each single cluster. We considered then, as already said, the following variables (Tab. 5)

Socio demographical variables	Sex Age Profession
Behavioral variables	Level of knowledge of nutritional properties of the apple fruit in general Level of influence of the innovative characteristics of the red apple at the moment of purchase Level of influence of quality Level of influence of the price

Table 5 – Sociodemographical and behavioral variables

From the analysis of results it is possible to define the sociodemographical and behavioral characteristics of the 4 clusters.

Variables	Very interested	Interested	Not Interested	absolutely not Interested
Cluster dimension	26.38%	47.05%	14.37%	12.20%
Sex	F	M/F	F	M/F
Age	26-33; 42-49; 50-57	> 18; 34-41; 42-49; >57	<18; 18-25; 26-33	18-25; 26-33; 34-41; >57
Profession	teacher; housewife; Unemployed; (Self-employed	worker; students; Artisan; Clercks; female shop assistantante	student; entrepreneur; unemployed	Student; housewife; entrepreneur; Artisan; Other ( Self employed F.A.)
Influence of innovative characteristics	5;6	3;4;5	2;3	1;2

Knowledge of the nutritional properties of the apple in general	SI	SI	NO	NO
Influence of price	3;5	4	1	6
Influence of quality	3;4	5	6	6

*Table 6 –Cluster profiles*

Table 6 shows that the cluster “very interested” and “not interested” is mainly composed of women, whilst the cluster “interested” and “absolutely not interested” are composed of both men and women. As for the age, we can observe that the cluster “very interested” refers to the group aged 26-33 and 42-57, clusters referring to individuals divided by a small age gap. We find these characteristics also in other groups. It is, in fact, particularly evident in the “not interested” cluster (< 18-33), followed by the “absolutely not interested” (18-41; >57) and finally the “interested” (< 18; 34-49; > 57). The age groups are confirmed in the professions. The “very interested” are: teachers, workers, housewives, artisan, unemployed, while the category “other” is mainly composed of self-employed and soldiers. The second cluster, the “interested” is composed of students, clerks, female shop assistants and the retired; the third, “not interested” by students, entrepreneurs and unemployed. Finally, in the cluster “absolutely not interested” are included students, housewives, entrepreneurs, artisans and the category “other”, then self-employed and soldiers. As for behavioral variables, as it was predictable, results show that for the “very interested” the innovative nutritional characteristics of the red apple strongly influence the choice of the product and then customers propensity to purchase the apple with red flesh (values of 5-6 on a Likert scale). The lower the interest, the lower the related way of the level of interest of the clusters. Finally, very interesting is the awareness those groups show in the nutritional properties of the apple in general. The clusters “very interested” and “interested” declared they knew the nutritional characteristics of apples, while the “not interested” declared they totally ignored them. This shows how the information about the properties of food products is a factor influencing, or at least in the present case study an encouragement to try better quality food products. Conversely, the analysis of the data concerning the relationship between the different clusters and quality/price, were discordant. However, if we consider only the higher discriminatory values, it results that the relationship quality/price is very important to the cluster “absolutely not interested”, because they attributed 6 to both (on a Likert scale 1, not at all, to 6, very much). Also the “interested” give importance to the quality/price relationship, attributing respectively a score of 5 and 4. Conversely, the “not interested” give much importance to quality (score 6) and no relevance whatsoever to price (1). We are dealing then with individuals willing

to consume high quality products and that don't attribute relevance to how much they are asked to pay. Finally, the "very interested" gave a score of 3 and 5 to price and 3 and 4 to the quality of the product.

#### 4. CONCLUSIONS

Innovation is a key element of economic development and spin-offs are a valuable tool in the technology transfer. The build process does not provide for the elaboration of a detailed market study and often ignores the potential consumers. So, main goals of the present survey were in primis to determine the market and consumers reactions to innovation, in our case of food innovation, through the use of indexes that take into consideration contextual and individual characteristics that could identify the estimations expressed. Further, the use of statistical tools allowed to predict possible reactions of consumers to these new products. The results of our analysis showed that 73% of the sample usually consume apples and 72% is aware of their nutritional properties. This latter information is very important, since it was those respondents who declared they knew the nutritional properties of the apple that constitute the clusters of those who were particularly inclined to consume the apple with red flesh. Through cluster analysis we were able to identify four different groups, with individuals gathered according to their level of interest in the new product. USO then will choose the groups of customers on which personalize the supply of products, differentiating and specializing its market supplies. Once defined the four groups the planning of activities will be necessarily aimed at each one of them. In particular, the company will reinforce the groups of the "very interested" and "interested", giving them more detailed information about the product's nutritional properties (underlining its qualities), being them composed of individuals particularly interested in this kind of information. As for the cluster of "not interested" and "absolutely not interested", our case study shows that they are individuals who pay more attention to the quality of the product apple they purchase. In particular, while the cluster of "not interested" finds unimportant the price the contrary is true when we consider the "absolutely not interested". This means that, while they focus their direct their attention only on quality, and not on price, for the other cluster the two factors, quality-price are not only very relevant but they are also perfectly balanced. For these clusters it would be necessary a planning of strategy that could give detailed and punctual information and that would also be accompanied by objective validations on the safety of the new apple and of its positive returns in terms of health. These strategies would also be supported by appropriated price politics, being that variable a relatively important factor for all groups. Despite the goals achieved by the survey from a marketing perspective, it presents some limitations. It would be more expedient, to validate the results on more than one year to confirm and control the level of interest and customer propensity to consume the new product, also in the light of

the difficult economic trends. Another limitation is related to the number of respondents. A greater sample would, in fact, lead to more reliable results, to reject or confirm our starting hypotheses. Further, the model should be developed not only on a temporal scale but also on a geographical one, proposing the same survey to other hypermarkets of the wholesale distribution established not only in the same local area, but also in other provinces or regions. In this way we could have the possibility to work on more heterogeneous samples and the related results would be highly validated. Finally, it would also be expedient to interview not only the customers of hypermarkets but also those of as retailers, fairs and marketplaces. Only then we could have a full picture of all the potential consumers of the new product. According to these observations and to complete and validate the obtained model, we aim at verifying the reliability of the final results in order to bridge the gap. For this reason, our survey will focus on specific aspects such as the dimension of the sample and its homogeneity. Our target will be then to increase the number of respondents and, in particular, repeat the survey for several years and in different locations and points of sale, developing both a temporal and geographical comparison. The analysis of the questionnaires adds a wealth of information for the definition of a strategic plan. With this tool, and attention to potential market USO have greater trust in the elaboration of its business plan. This type of analysis should be integrated into the process of creating and becoming a focal aspect to validate the potential of the USO. In particular, the TTO should support and organize for proposers the analysis of potential customers. The analysis of the consumer and his preferences should become a strategic element in the creation process of the USO. Unfortunately, often the resources are not sufficient to allow universities to provide all the necessary tools for aspiring entrepreneurs. So, the creation process is sometimes limited as well as being a mere bureaucratic process and no real analysis of the market.

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## WHEN SPEED COUNTS, OPEN INNOVATION MATTERS

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### ABSTRACT

The importance of a firm's collaborations on its performance is well recognized by open innovation literature. However, not all collaborations are equal. Adding to extant research on the breadth and depth of external sources of knowledge, this paper distinguishes among two types of collaborations, namely innovation-oriented and operational-oriented collaborations, on the basis of their scope and looks at their impact on reducing time-to-market, as an indicator of the firm's performance. In doing it, it also considers the moderating role of two organizational capabilities, namely managerial capabilities and internationalization capability. A hierarchical multiple and moderated hierarchical multiple regressions are developed based on a composite dataset of 151 Tuscan (Italy) firms in the life science sector. The results show that a U-shaped relationship characterizes the impact of both collaborations on firm's time-to-market, but also that this link is moderated by managerial and internationalization capabilities.

**Keywords:** *collaborations; managerial capabilities, internationalization capability; time-to-market; Life Sciences*

### 1. INTRODUCTION

This paper focuses on the role of open innovation (OI) in the life science (LS) sector, looking at the moderating impact of core competences on the collaboration-innovation performance link. The importance of collaborations is central to the OI research (Gesing et al. 2015). OI, in fact, requires firms to systematically perform *"knowledge exploration, retention, and exploitation inside and outside an organization's boundaries through the innovation process"* (Lichtenthaler 2011: 77), thus requiring firms to look beyond their boundaries searching for partners to involve in their innovation and commercialization processes. Empirical evidence, however, shows that collaborations may have ambiguous and contradictory effects on the several facets of organizational performance. Among the reasons of such ambiguities and beyond industry characteristics, previous studies have distinguished among two broad categories of factors that may explain heterogeneous results. On the one hand, there

are *firm-related factors*, such as the stages of product development, the firm's size (Rothaermel and Deeds 2004), and, in particular, the firm's capabilities (Caner & Tyler, 2014; Ferreras-Méndez et al., 2015; Lee et al., 2001; Mitrega et al., 2012), such as absorptive capacity (Laursen and Salter 2006). On the other hand, we can distinguish *collaboration-related factors*. Most of OI scholars' attention has been deserved to the breadth and the depth of collaborations (Laursen and Salter 2006; Verbano et al., 2015), and in particular, more recent debate is about the effect collaboration partner types have on the payoff from the collaboration (Bengtsson et al. 2015, Gesing et al., 2015). However, little attention has been deserved to the heterogeneity of collaborations a firm deals with (Kim & Lui, 2015; Knudsen, 2007; Laursen and Salter, 2006; Vereecke & Muylle, 2006). Companies, in fact, may collaborate for several reasons, but previous studies have only analysed how the nature of the partners, whether scientific- or market-focused innovation partners (Gesing et al., 2015), contribute to innovation performance, thus overlooking at how different scope of collaborations affect its performance.

This study investigates the impact of the interaction between firm-related and collaboration-related factors on time-to-market (T2M), chosen as a crucial performance indicator in the LS sector. Albeit it is rather intuitive that firms with different capabilities are able to manage different types of collaborations, previous research has mainly focused on relational or networking capabilities as the capabilities needed to engage with partners. Nonetheless, firms possess other capabilities that may be important for exploiting the value of external collaborations. In particular, the outcome from the collaboration may rest upon a firm's capabilities in managing the type of collaborations.

This paper aims to complement extant research via a twofold contribution. A first contribution refers to the distinction between the scope of the network: based on the relational view of the firm, we distinguish between firms that collaborate for innovation-oriented (Caner & Tyler 2014) or operational-oriented (Aarikka-Stenroos et al., 2014) scopes. Second, moving from the resource-based view of the firm, this paper extends previous research by introducing two new capabilities that may moderate the collaboration scope-performance link. In particular, we investigate whether firms possessing managerial and internationalization capabilities (Cruz-Ros & Gonzalez-Cruz, 2015; Fitjar et al. 2013; Wang et al. 2015) are better able to realize the inherent benefits of innovation-oriented and operational-oriented collaborations.

In doing that, we test hypotheses on data collected from an original and unique database based on 151 Tuscan (Italy) organizations operating in the LSs sector, a high-technology-intensive sector (De Luca and Verona and Vicari, 2010), that is characterized by a strong role of collaborations among firms. In particular, we look at the impact of capabilities and type of collaborations on an under-researched new product development performance measure, i.e. the time to market (Tatikonda and Montoya-Weiss 2001). Having a short time to market is an important factor in determining competitive



advantage, in particular in industries where R&D is long and complex (Rothaermel and Deeds 2004; Shan, Walker, and Kogut 1994). Results from the regression model adopted contribute to both, theory and practice. Drawing upon the notion of collaboration, we offer empirical evidence on how to decrease the T2M through combining different types of collaborations and capabilities.

The paper is structured as follows. In the next section we review the literature on collaborations and capabilities and propose a theoretical model with four main research hypotheses. In Section 3, data collection and measurement development are described. The analysis and results are presented in Section 4. Section 5 discusses the results. Finally, concluding remarks which include both theoretical and managerial implications, as well as limitations and future research, are provided.

## 2. THE HETEROGENEITY OF OPEN INNOVATION COLLABORATIONS

### 2.1 *Effects of collaborations on firms' performance*

OI scholars have often looked at collaborations between firms as a key determinant of firm's performance. Firms often collaborate with third parties to get access to the resources they need. In doing that, firms choose among different types of partners (Bengtsson et al., 2015; Kim & Lui, 2015; Laursen & Salter, 2006; Lopez-Vega et al. 2015).

When looking at collaborations, OI scholars have mainly looked at two measures: the breadth and the depth of relationships (Egbetokun 2015; Laursen & Salter, 2005). Collaborations may happen with a variety of actors such as suppliers, customers, competitors, private laboratories, universities and public research institutes (Egbetokun 2015; Fitjar et al. 2013; Laursen & Salter 2006). How the combination of relationships impacts the performance of the firms depends on the type of industry (Knudsen, 2007; Vereecke & Muylle, 2006) and are usually characterized by an inverted U-shaped relationship with respect to innovation performance. Firms, in fact, may benefit from collaborations up to a certain level since collaborations affect knowledge sharing, complementarity, the emergence of scale economies, knowledge spill-overs and information access as well as risk sharing and access to resources and markets (Pittaway, Robertson, Munir, & Denyer 2004; Pucci and Zanni, 2016), but this effect turns to be negative since collaborating implies costs that cause non-linear relationships on partners- innovation performance link (Laursen and Salter 2006; Bengtsson et al. 2015).

Little attention, however, has been given to the *scope* collaborations are settled up (Rothaermel and Deeds 2004; 2006). Albeit it is tacitly intuitive that the reasons collaborations are made rely on either (or both) the generation and the diffusion of innovation (Nooteboom, 1999; 2000; Rothaermel & Deeds, 2004), literature does not usually distinguish between different collaborations on the basis of their scope. However, academic community often refers to either *innovation-oriented collaborations*, aimed at introducing radical or incremental product or service innovations (Laursen and Salter 2006; Caner and

Tyler 2014), and *operational-oriented collaborations* (Aarikka-Stenroos and Lehtimäki 2014), aimed at enhancing manufacturing, distribution and commercialization/marketing (Caner and Tyler 2014; Rothaermel and Deeds 2004; Wang et al. 2015). We define innovation-oriented collaborations as those collaborations aimed at enhancing the innovativeness and the development of new products and acquiring new knowledge from external partners, while operational-oriented collaborations as those collaborations aimed at acquiring market power, sharing risks, entering in new markets. We want to look at whether these two kinds of collaborations have a different influence on a firm's performance. Considering extant research on external search breadth and depth (Laursen and Salter, 2006), we make a further step in OI research via distinguishing among the scope (innovation-oriented vs. operational oriented) of the collaborations (Wang et al. 2015; Aarikka-Stenroos et al. 2014; Shan et al. 1994; Bengtsson et al. 2015). We suggest a curvilinear relationship between the scope and the innovation performance. This curvilinear relationship is rooted in a social capital perspective (Molina-Morales and Martinez-Fernandez 2009; Mishra, Chandrasekaran, and MacCormack 2015). Firms that collaborate benefit from an increase in the exchange of information and resources, but after a certain threshold, they incur in higher costs due to ongoing relationship maintenance, time and effort. Consequently, we suggest that:

**Hypothesis 1:** innovation-oriented collaboration is curvilinearly (inverted U-shaped) related to the firm's performance;

**Hypothesis 2:** operational-oriented collaboration is curvilinearly (inverted U-shaped) related to the firm's performance.

## 2.2 The moderating role of managerial and internationalization capabilities

The central argument of this paper is that internal capabilities moderate the collaborations – performance relation. This belief is rooted in the resource-based view of the firm, according to which firms differ in their performance due to their resources and capabilities (Amit and Schoemaker 1993). Usually, extant research has focused on relational capabilities (Fitjar et al., 2013; Walter et al. 2006), defined as “the ability to integrate a large periphery of heterogeneous weak ties and a core of strong ties” (Capaldo 2007: 585). These capabilities facilitate learning, share knowledge (Im and Rai 2008), and reduce transaction costs via increasing trust. However, previous studies have not investigated the role of other capabilities in making the collaborations effective. In particular, in this paper we look at two organizational capabilities: the managerial capabilities and the internationalization capability.

Managerial capabilities represent the ability of the firm to manage its financial, human resources and operational activities (Cruz-Ros & Gonzalez-Cruz, 2015; Fitjar et al., 2013; Hooley et al., 2005; Lee et

al., 2001). Managerial capabilities are different from absorptive capacity in that the latter represents prior ability to “recognize the value of new information, assimilate it, and apply it to commercial ends” (Cohen and Levinthal, 1990:128). In this sense, absorptive capacity refers to the ability to evaluate and utilize outside knowledge, while managerial capabilities look not at the knowledge but at the financial, human and operational activities of the partners. The rationale of considering managerial capabilities as a factor impacting the collaboration-performance relationship lies on two main reasons. First, human resources represent one of the means via which an organization reaches its goals. Being able to manage the human resources is important for extracting value from collaborations. Second, managers should also be expert in dealing with operation and managing financial resources in order to internally exploit the external resources of the collaboration. Managers, in fact, control resources, filter ideas and set strategies (Fitjar et al. 2013; Lee et al., 2001) and managerial capabilities may enhance collaborations via reducing operational costs, reducing business risk exposure, streamlining business processes and capitalizing on market opportunities (Wang et al. 2015). On the basis of the previous considerations, we hypothesised that:

**Hypothesis 3a:** the higher the managerial capabilities of the firm, the more effective the innovation-oriented collaboration will be in influencing firm’s performance;

**Hypothesis 3b:** the higher the managerial capabilities of the firm, the more effective the operational-oriented collaboration will be in influencing firm’s performance.

An underdeveloped stream of research is instead represented by the capacity of the firm in being international. Firms often collaborate with external partners for entering new markets or reinforcing their presence in existing markets. On the one hand, companies may benefit from having international activities since they may increase market opportunities (Kotabe et al., 2002), fasten new product development and introduction (Bartlett and Goshal 1989). Firms need also to manage international partnerships (Fitjar et al., 2013) and choose among alliances/licensing agreements, the level of integration into customers and supplier channels, among the others (Freeman et al. 2006). However, being international may have also costs that relate mainly to select the proper foreign market entry mode, to choose the markets where to sell products/provide services, to manage the international process. Hence, the capability of managing international activities requires costs in term of transaction, management and coordination (Kotabe et al., 2002) that may hamper the performance of the firm. In particular, Kafouros et al. (2008) find that the internationalization activity needs to be under a certain threshold level in order to benefit from innovation. Firms “*are unable to benefit from innovation if their international activity is below a threshold level*” (Kafouros et al. 2008). The curvilinear relationship the literature finds, may be the result of excessive management costs (Tallman and Li 1996). Consequently, firms that have greater capability in managing their internationalization

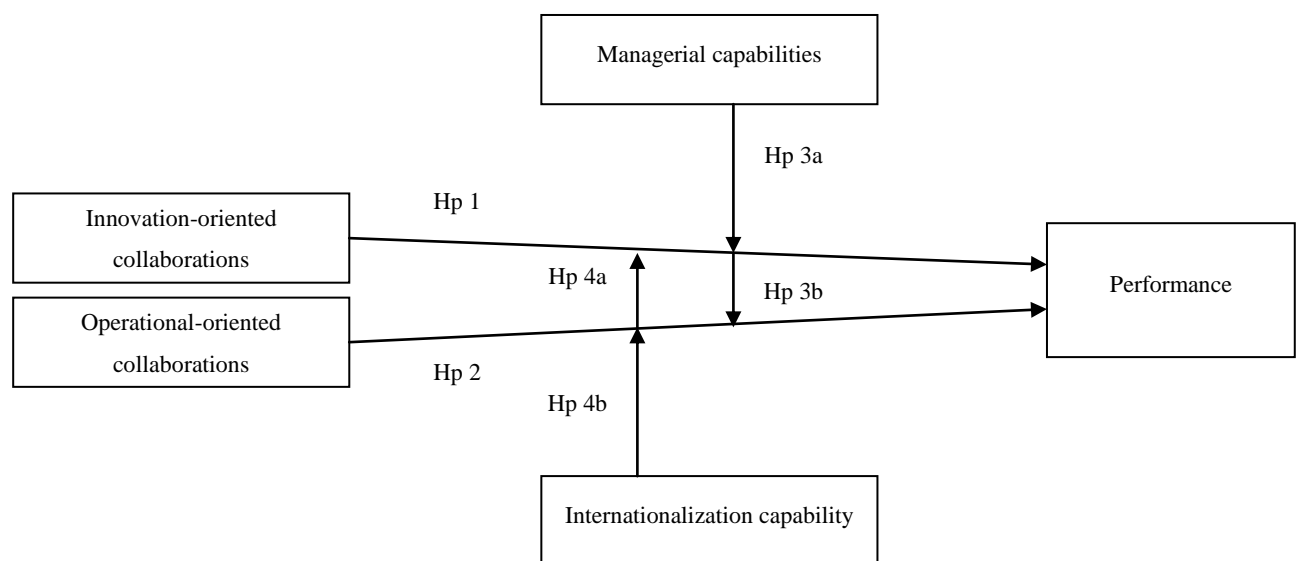
processes, may perform better than companies that are not able to do that. Moreover, the fact that firms are able to compete on international markets may also impact the way firms benefit from their collaborations. Henceforth, we suggest that:

**Hypothesis 4a:** the higher the internationalization capabilities of the firm, the more effective the external innovation-oriented search height will be in influencing firm's performance;

**Hypothesis 4b:** the higher the internationalization capabilities of the firm, the more effective the external operational-oriented search height will be in influencing firm's performance.

Adding to previous research noticing that firms need to possess specific capabilities in managing collaborations (Mitrega et al., 2012), we look at the managerial capabilities and the internationalization capability on the relationship between numbers of innovation-oriented and operational-oriented collaborations and firm's performance (as measured by T2M) in the LS sector. Our theoretical framework is presented in Figure 1.

**Figure 1. The conceptual model**



### 3. METHODOLOGY AND MEASUREMENT

#### 3.1. Sample and data collection

We tested our hypotheses by looking at the LS sector, characterized by 3 main industries, namely pharmaceuticals, biotechnology and medical devices, and the emerging segment of cosmeceuticals and nutraceuticals. A fourth segment comprises firms specialized in delivering services to support these industries. The choice of focusing on the LS sector is led by the fact that firms tend to be involved in various kinds of partnerships (Ferrerias-Méndez et al., 2015; Liebeskind et al., 1996; Shan et

al., 1994) and external to the firm knowledge sources is increasingly relevant (Belussi et al., 2010) since knowledge base is complex and the sources of expertise widely dispersed (Powell et al., 1996).

We carried out our questionnaire on the firms operating in the LS sector in Tuscany. The Tuscan LS sector is third in Italy for its concentration of pharmaceutical and biotechnological industries (Farmindustria, 2011; AssoBiotech, 2012; Pucci and Zanni, 2012) and was geographically proximate to the research team, thus simplifying control of the consistency and quality of the research data. The list of all firms was built by the research team considering national censuses of professional associations (AssoBiotech, Farmindustria, and AssoBiomedica) and data from the Chamber of Commerce. A final list of 317 for-profit firms was created and that list was updated to December 2012. The firms employed a total of 19,419 people.

The questionnaire was tested with founders and managers belonging to all the segments of LS sector, with two managers of the Tuscan Life Sciences Foundation and two members of the Steering Committee of the Tuscan Regional LS District. Data were collected via email from March to May 2012. A presentation letter with the research objectives and privacy assurance was sent via email to all the 317 firms. Subsequently, the research team verified the information obtained through the questionnaire through secondary sources, namely the Chamber of Commerce for the structural data of the firms and the number of patents in the Qpat database, and, if necessary, carried out follow-up telephone interviews with the person (entrepreneurs, owners or CEOs) who had completed the questionnaire. A total of 151 firms, representing 47.63% of the target population, returned the questionnaires. Table 1 presents the sample.

Firms of the Tuscan LSs sector	Population				Sampled firms			
	Firms		Employees		Firms		Employees	
	N	%	N	%	N	%	N	%
Biotechnology	36	11.36	673	3.47	24	15.89	487	3.56
Pharmaceuticals	47	14.83	11919	61.37	25	16.56	8297	60.58
Medical devices	116	36.59	3399	17.50	48	31.79	2541	18.55
Cosmeceuticals and								
Nutraceuticals	28	8.83	817	4.21	9	5.96	691	5.04
Others	90	28.39	2611	13.45	45	29.80	1681	12.27
Total	317	100.00	19419	100.00	151	100.00	13697	100.00

Redemption: 47.63% (151/317). Our elaboration of Chamber of Commerce data, website and interviews with sector experts

**Table 13. Sectoral classification of LSs firms: universe and sample of firms**

### 3.2 Definitions and measurements of the constructs

**Dependent variable.** The dependent variable chosen in our study is the elapsed time (months) between the start of the R&D phase and the market launch of the new product (*fR&DtM*) (Griffin

2002). The choice of focusing on T2M rather than on innovation-performance or financial performance has been led by that having a short time to market is an important factor in determining competitive advantage, in particular in industries where R&D is long and complex (Rothaermel and Deeds 2004; Shan et al., 1994) such as LS. Moreover, T2M is the largest industry challenge in sectors such as LS (Prašnikar and Škerlj 2006), characterized by ever-shortening technology development cycles, long product development cycles and short product cycles (Liebeskind et al. 1996).

***Innovation-oriented and operational-oriented collaborations.*** To construct the measurements relative to collaborations for each firm, the questionnaire asked for the name and location of those partners considered strategically relevant to each firm's activity. For each partner the type of activity was requested as well, that is, if it was another firm/private entity, a public research organization (PRO), a public institution (not research) or a scientific park/incubator. Lastly, firms were asked to specify the reason for the collaboration, if it was for operational reasons (supply, distribution, sales) or rather for reasons related to R&D and improvement of innovation.

The total number of innovation-oriented collaborations (Inn\_coll) and the total number of operational-oriented collaborations (Op\_coll) are counted for each firm and used in the analysis which follows. It is interesting to note that we introduce a third dimension to Laursen & Salter (2006)'s contribution via considering the *height* of external sources, i.e. the number of external search partners, no matter the relative importance (depth) nor the kind of partners (breadth). Hence, not only the type of partners (breadth), whether science- or market-focused innovation partners (Gesing et al. 2015), and the extent to which a firm draw from search channels (depth) matter (Laursen & Salter, 2006), but also the number of collaborations a firm has is important.

***Capabilities.*** The managerial capability construct (*Man. Cap.*), developed by Hooley *et al.* (2005), is measured by three items that evaluate the competences of the firm in managing its financial and human resources as well as its operational activities. The construct has a Cronbach's of 0.89, indicating a high level of reliability (see Appendix A). Furthermore, total correlations vary from 0.72 to 0.74, thus all above the threshold of 0.45 suggested in the literature (Parker *et al.*, 1997). The evidence furnished by the validity and reliability measurements allows us to use the average score of the items in the analysis which follows. The ratio of foreign sales on total sales is used as proxy of the internationalization capacity of the firm (*Internat. Cap.*) (Tallman and Li 1996; Pucci et al., 2016).

***Control variables.*** Therefore, during the tests conducted to verify the relationships hypothesized, some control variables were introduced which could have an influence on the time to market of the firm. The dimensions of firms (*Size*) were measured as logarithms of the number of employees. The age (*Age*) of the firm was measured by the logarithms of the number of years passed since the firm was founded. The segment a firm belonged to was controlled by introducing three dummy variables

for the pharmaceutical (*Pharma*), biotechnological (*Biotech*) and medical devices (*Med. Dev.*) segments.

*R&D Exp.* is the logarithm of the expenditures in research and development (Belussi et al., 2010).

Table 2 furnishes the descriptive statistics and the correlations among all the variables used in the study. Appendix B reports the VIF scores and the tolerances of the explanatory variables for the model. These values (compared as well to the correlation values of Table 2) do not indicate significant issues of multicollinearity among variables.

Variables	[1]	[2]	[3]	[4]	[5]	[6]	[7]	[8]	[9]	[10]	[11]
[1] fR&DtM	1.000										
[2] Size (log)	-0.175	1.000									
[3] Age (log)	-0.067	0.588	1.000								
[4] Pharma	0.040	0.305	0.187	1.000							
		-	-	-							
[5] Biotech	-0.060	0.099	0.252	0.194	1.000						
		-	-	-	-						
[6] Med. Dev.	-0.003	0.069	0.107	0.304	0.297	1.000					
					-						
[7] R&D Exp. (log)	-0.282	0.609	0.427	0.117	0.033	0.134	1.000				
						-		1.00			
[8] Op_coll	-0.304	0.532	0.222	0.073	0.031	0.067	0.329	0			
						-		0.55	1.00		
[9] Inn_coll	-0.351	0.558	0.190	0.190	0.122	0.057	0.344	7	0		
								0.12	0.28	1.00	
[10] Internat. Cap.	-0.110	0.198	0.159	0.027	0.202	0.008	0.240	9	4	0	
					-	-		0.36	0.28	0.03	1.00
[11] Man. Cap.	-0.131	0.525	0.322	0.163	0.104	0.071	0.202	1	5	3	0
	43.13							3.41	2.86	0.18	4.44
Mean	9	2.419	2.382	0.166	0.159	0.318	9.671	7	1	3	6
	24.16							2.35	2.58	0.28	1.22
St. Dev.	6	1.806	1.071	0.373	0.367	0.467	4.858	6	0	6	5
Min	12	0	0	0	0	0	0	0	0	0	2
							18.64				
Max	120	7.869	4.673	1	1	1	2	14	18	1	7

Note: N = 151. Correlation coefficients greater than 0.163 in absolute value are statistically significant at 95%.

**Table 14. Descriptive statistics and correlations**

## 4. ANALYSIS AND RESULTS

In order to investigate the relation between collaborations and T2M as moderated by firm's capabilities we utilize hierarchical multiple and moderated hierarchical multiple regressions (Cohen and Cohen, 1983). Before analysing the data, it is important to note that due to the specific nature of the dependent variable (T2M), the lower is the dependent variable, the higher the firm's performance. Henceforth, the inverted U-shape relationship as hypothesized in Hypotheses 1-4 is here reversed in a

U-shape relationship. Table 3 reports the results of the analysis. In the first model (Model A) the control variables were entered. In the second model (Model B) the main effects were entered. In the models C moderator effects (capabilities) were entered. Models D, E and F test for a curvilinear U-shaped effect of R&D expenditures, operational-oriented and innovation-oriented collaborations on T2M respectively. In models from G to L interactions terms were entered.

The results show that both innovative-oriented and operational-oriented collaborations have a negative impact on T2M: increasing the number of collaborations the company has with external partners reduces the number of months between the start of the R&D phase and the launch of a new product in the market (model B), thus improving the firm's performance. However, there is a U-shaped curvilinear effect on the T2M of the firm as showed in models D-F. Beyond a certain threshold, increasing the R&D expenditures as well as the number of relationships (innovative and operational) increases the time to market.

Managerial and internationalization capabilities do not have a direct impact on T2M (model C) but they are positive moderators of the collaboration-T2M relationship (models I-L). Figures 2 and 3 show this moderator effect. Beyond a certain threshold of complexity generated by the number of collaborations (both innovative and operational) management and internationalization capabilities play a decisive role in reducing the time of research, development and marketing of the new product.

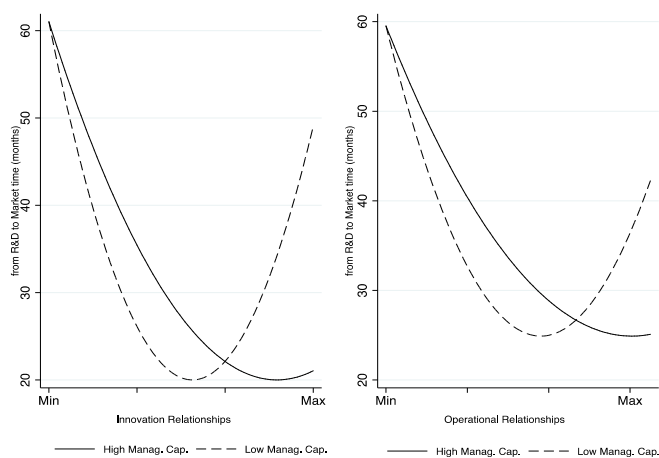


Variables	Mod. A	Mod. B	Mod. C	Mod. D	Mod. E	Mod. F	Mod. G	Mod. H	Mod. I	Mod. J	Mod. K	Mod. L
Size (log)	-0.874 (1.582)	3.308* (1.779)	3.944** (1.912)	2.720 (2.009)	5.402*** (1.905)	4.238** (1.802)	4.174** (1.816)	5.066*** (1.890)	4.211** (1.858)	4.564** (1.911)	4.076** (1.857)	5.138*** (1.869)
Age (log)	1.469 (2.308)	-0.257 (2.217)	-0.219 (2.245)	-1.181 (2.226)	0.061 (2.175)	0.206 (2.117)	0.274 (2.135)	0.294 (2.185)	0.383 (2.187)	0.395 (2.237)	0.048 (2.181)	-0.168 (2.158)
Pharma	5.698 (5.912)	6.337 (5.674)	6.249 (5.699)	6.784 (5.658)	5.041 (5.528)	6.251 (5.367)	6.436 (5.410)	4.558 (5.556)	5.387 (5.537)	5.055 (5.658)	6.735 (5.534)	5.340 (5.485)
Biotech	-1.942 (5.915)	2.272 (5.714)	1.816 (5.874)	3.346 (5.883)	4.447 (5.743)	5.168 (5.586)	5.751 (5.661)	4.520 (5.766)	5.805 (5.843)	4.376 (5.929)	3.252 (5.721)	4.306 (5.691)
Med. Dev.	2.187 (4.809)	3.323 (4.579)	3.189 (4.603)	3.181 (4.564)	0.499 (4.532)	1.067 (4.363)	1.209 (4.397)	0.703 (4.537)	1.918 (4.486)	2.158 (4.574)	2.245 (4.479)	0.790 (4.477)
R&D Exp. (log)	-1.426*** (0.516)	-1.405*** (0.488)	-1.489*** (0.500)	-3.963*** (1.432)	-1.659*** (0.487)	-1.343*** (0.472)	-1.602*** (0.476)	-1.870*** (0.501)	-1.533*** (0.486)	-1.656*** (0.500)	-1.403*** (0.486)	-1.528*** (0.481)
Op_coll		-1.712* (0.990)	-1.586 (1.004)	-2.165** (1.043)	-8.042*** (2.221)	-2.517** (0.969)	-2.595*** (0.985)	-4.843*** (1.429)	-2.109** (0.988)	-2.833** (1.154)	-1.991** (0.983)	-4.186*** (1.214)
Inn_coll		-2.961*** (0.949)	-3.018*** (0.972)	-3.532*** (1.003)	-3.964*** (0.985)	-9.072*** (1.667)	-6.567*** (1.274)	-4.035*** (0.998)	-4.808*** (1.105)	-3.743*** (1.020)	-4.977*** (1.136)	-3.958*** (0.972)
Internat. Cap.			0.892 (6.945)	0.193 (6.897)	-0.939 (6.745)	-0.263 (6.545)	-0.030 (6.597)	-0.337 (6.750)	-0.069 (6.743)	1.027 (6.861)	-7.677 (7.289)	-11.098*** (7.490)
Manag. Cap.			-1.647 (1.795)	-1.988 (1.790)	-2.545 (1.760)	-2.102 (1.694)	-2.363 (1.713)	-2.550 (1.766)	-3.427* (1.834)	-4.025* (2.101)	-1.963 (1.746)	-1.757 (1.726)
R&D Exp. <sup>2</sup>				0.208* (0.113)								
Op_coll <sup>2</sup>					0.601*** (0.186)							
Inn_coll <sup>2</sup>						0.534*** (0.123)						
Inn_coll. <sup>2</sup> X R&D Exp. <sup>2</sup>							0.001*** (0.000)					
Op_coll. <sup>2</sup> X R&D Exp. <sup>2</sup>								0.001*** (0.000)				
Inn_coll. <sup>2</sup> X Man. Cap.									0.109*** (0.035)			
Op_coll. <sup>2</sup> X Man. Cap.										0.113** (0.054)		
Inn_coll. <sup>2</sup> X Inter. Cap.											0.407*** (0.132)	
Op_coll. <sup>2</sup> X Inter. Cap.												0.658*** (0.186)
Constant	54.215*** (5.768)	61.193*** (5.803)	67.401** (8.879)	74.666*** (9.647)	84.248*** (10.050)	79.234*** (8.795)	79.842*** (8.974)	82.024*** (9.812)	79.331*** (9.432)	81.655*** (11.070)	73.490*** (8.841)	76.645*** (8.928)
R <sup>2</sup>	0.093	0.201	0.206	0.224	0.261	0.300	0.289	0.257	0.257	0.230	0.257	0.271
Adj. R <sup>2</sup>	0.055	0.156	0.149	0.163	0.203	0.245	0.233	0.199	0.198	0.169	0.198	0.213
Incr. F test		9.56***	0.44	3.39*	10.45***	18.86***	16.34***	9.70***	9.67***	4.45**	9.57***	12.47***

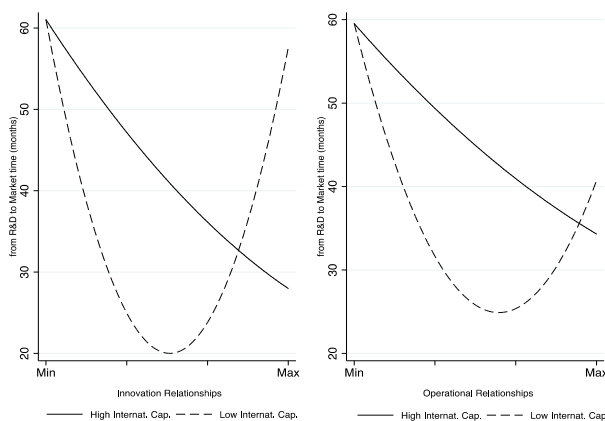
Note: N = 151; Standard errors in parentheses. \*  $p < 0.1$ , \*\*  $p < 0.5$ , \*\*\*  $p < 0.01$

**Table 15. Model Comparison Results of Hierarchical Multiple Regression Analysis**

**Figure2. Slope Analysis for the effect of Managerial Capabilities on Innovation Relationships/Operational Relationships – “from R&D to Market” time (95% CI)**



**Figure 3. Slope Analysis for the effect of Internationalization capability on Innovation Relationships/Operational Relationships – “from R&D to Market” time (95% CI)**



## 5. CONCLUSIONS AND IMPLICATIONS

Firms increasingly use their networks in order to get access to missing resources and improving their performance (Pittaway et al., 2004). In deepening this stream of research, however, OI scholars have noticed that collaborations are not always positive (Laursen and Salter 2006) and that their impact on the firm's performance may be moderated by the firm's capabilities (Järvensivu & Möller, 2009; Lee et al., 2001; Mitrega et al., 2012). These studies have mainly looked at capabilities needed to manage the network of relationships such as the relational capabilities (Mitrega et al. 2012), thus overlooking at other types of capabilities that may affect the collaboration-performance relationship. Moreover, research on collaborations has not distinguished the heterogeneity of the scope of collaborations,

considering them as a one-fits-all concept whose variety is given only by the types of partners or the intensity of relationships.

The present study enhances our understanding in two ways: distinguishing between two types of collaborations based on their scope (Aarikka-Stenroos et al., 2014; Shan et al., 1994; Bengtsson et al. 2015) and introducing and investigating the role of two types of capabilities, namely the managerial capabilities and the internationalization capability. Our results show that collaborations are important for reducing T2M, but up to a certain point. The quadratic effects that we found for both innovation-oriented and operation-oriented collaborations show that the effect of partners on T2M is positive up to a certain level. After that threshold, the impact of collaborations on T2M reverses. The fact that T2M increases when the number of collaborations increases too much stresses that managing collaborations becomes difficult after a certain level. Henceforth, firms should develop specific capabilities in order to mitigate this effect. From a practical perspective this study suggests that to fasten T2M in LS sector firms should be able to manage the number of collaborations they have and that those firms with lower levels of managerial and internationalization capabilities benefits more from increasing the number of collaborations than those with higher managerial and internationalization capabilities, at least up to a certain number of collaborations.

This paper presents some limitations that could be solved by future research. A first limitation is inherent to the usual problem of survey research: although the controls did not indicate significant problems of common method variance, its potential influence cannot be completely excluded in a self-report research study (Podsakoff *et al.*, 2003; Podsakoff and Organ, 1986) as regards the constructs for the capabilities within the firms. Secondly, the cross-sectional nature of the research could be a potential source of criticism, and future studies could employ a longitudinal research design to examine the dynamics and timing of the examined relationships. Lastly, the work is entirely based on the evidence from a particular regional network. Henceforth, a national or international comparison among LS networks at the same developmental level would help to further validate the results.

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## APPENDIX A: MANAGERIAL CAPABILITIES: MEASUREMENT ITEMS AND VALIDITY ASSESSMENT (N = 151)

Measure	Item description <sup>a</sup>	Factor Loading
Managerial capabilities $\alpha = .89$ - AVE = .71 (Hooley <i>et al.</i> , 2005)	<i>To what extent do the following statements apply to your organization?</i> 1. Strong financial management capabilities 2. Effective human resource management 3. Good operations management expertise	.83 - .85

a Seven-point scale anchored at 1 = not at all and 7 = to an extreme extent.

### Appendix B: VIF scores and tolerances among study variables –

Variables	VIF scores	Tolerance
R&D Exp. (log)	1.21	0.82
Op. relation.	1.59	0.64
Inn. Relation	1.61	0.63
Internat. Cap.	1.12	0.89
Managerial Capabilities	1.17	0.85

Mean VIF: 1.34. Condition number: 11.896

## PERFORMANCE SUCCESS FACTORS IN HYBRID ORGANIZATIONS

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### ABSTRACT

The question discussed in this article is what key factors affect the success of hybrid organizations? Hence, organization's performance success factors in a context of sustainability are described as well as the results of an interview which was conducted in two hybrid organizations in Lithuania are presented.

The research has shown that issues of management-in-organization (arrangement of activities and processes in inside of entity) and management-of-organization (decisions in respect of organization's external environment) are intertwined in the hybrid organizations. In other words, managerial competencies, personnel life-long learning and organizational culture as well as entrepreneurship, knowledge on market and finances are all important for hybrid organizations in order to embody organization's performance strategy and to create products and services that meet the clients' needs best etc.

Although our research was pilot, a conclusion can be made that organization success factors are general, conceptual category. Furthermore, the capacities of the top managers to act in the context of external conditions seems directly affecting the potential of organization's sustainability.

**Keywords:** *management success factors, hybrid organizations, organization performance, sustainability, Lithuania.*

### INTRODUCTION

The scientific discourse still lacks generalizations in discussion on organizational management effectiveness. In the publications, the issue is seen on different scales: analysis is either pointed to managerial challenges or to the business challenges. The boundaries and links between these two heads of organization management are not analyzed.

Systemized knowledge about organization performance success factors is especially important to hybrid organizations, which fit goals of both for-profit and non-profit organizations, and face the specific obstacles of performance as regard to their dual aims. In turn, the question discussed in this

article is: what key factors affect the success of hybrid organizations? Also, the results of an interview which was conducted in two hybrid organizations in Lithuania are presented.

The article consists of three parts. The first part describes organization's performance success factors in a context of sustainability. The second part is subject of research methodology. The third part presents the key factors that are perceived as beneficial for practitioners of hybrid organizations. At the end of the article, brief conclusions of the research are delivered.

## ORGANIZATION PERFORMANCE SUCCESS FACTORS

When considering organizations, some factors have the greatest influence on organization performance success in the context of sustainability.

Key success factors as a long-term and successful organizational performance strategy concept were found by Ronald Daniel, according to whom, every industry has 3 to 6 factors that ensure business success and all operations must be executed with responsible evaluation of these factors (Daniel, 1961, cited in Huang et al., 2011). This concept was later developed by Rockart (cited in Farhadi et al., 2012). He defined the success factors as areas common to business in which the work results must be satisfactory in order to ensure a successful organization's competitiveness (Rockart, 1979, cited in Huang et al., 2011). In the 1980s, Peter and Waterman examined 43 successful organizations in the USA and determined 8 common factors that lead to high results (Peters, Waterman, 1982, cited in Farhadi et al., 2012). Similar research results were given by Grant in 1998. He concluded that every organization has individual success factors because each one of them is characterized by a unique set of resources and abilities (Grant, 1998, cited in Huang et al., 2011). Nevertheless, the pursuit of success factors should not be understood as a general strategy that necessarily provides exclusive profitability. These factors are an important assumption that may help the organization to be competitive. It is extremely important that the *disregard* of success factors is the leading cause of an organization's failure (Huang et al., 2011, p. 9364).

On the other hand, researchers and especially practitioners do not always understand the substance of business and management concepts and, sometimes, misunderstandings arise. It is important to distinguish management and business concepts, when striving to be a competitive and sustainable organization. Many restraints in organization performance might be overcome more effectively if organization managers would understand what problem is to be solved in a particular situation: management-in-organization or management-of-organization.

The integrity of management structures, tools and processes is a fundamental condition that enables organization to effectively refer to essential business area success factors and to obtain the positive effect carried by them (Belak, Duh, 2012).



Moreover, some assumptions of organization performance success factors become common when comparing different countries and cultures. After carrying out a meta-analysis in China and the West, Huang, Bruzga and Wang (2011) state that common success factors may be identified globally; the only difference is the ranked order of their importance. For comparison, Farhadi et al. (2012) gives the ten most important success factors of the Iranian ceramics industry. As the research shows, financial resources, clients' needs, managerial competences and human resource management remain important, despite the fact that in this country, organizations develop their activity in much more difficult economic, political and social conditions. A similar situation is observed in Sri Lanka. In this country, the skills of financial management, orientation to market needs and entrepreneurship in micro and macro levels compose the top three success factors (Jinadasa et al., 2011).

Unfortunately, there is a lack of exhaustive research in Europe that would present a well-grounded and structured list of organization performance success factors. Nevertheless, it is obvious that recently more attention has been given to human resource management in the West. As Mishra and Mishra (2010) notice, impressive productivity increases and quality amelioration results were reached by implementing and developing new technologies in organizations. In addition, significant achievements were influenced by the emerging of so called smart work place. However, an obvious turn from technologies to human potential may be observed when searching for opportunities in increasing organizational efficiency. For example, Bishop et al. (2008) carried out research in the UK showing that the most important success factors in that country are teamwork and naturally derived team leaders, support from the strategic heads, balance between information technologies and people, and communication. In addition, a complex research project executed by a team of scientists in the post-Soviet countries and described by Belak and Duh (2012) has shown that several factors have gained significant importance, that are: compatibility of internal and external policy of organizations, reliability, organizational culture, ethics, entrepreneurship, synergy and ecology — aspects that mostly rely on individuals' values, characteristics, activity and interaction.

Scientific research may be found that examines not only macro, but also micro success factors of organizations related to the characteristics of employees that are realizing the organizations' goals. For example, Fritsch (2010) revealed that employees' individual achievements are directly influenced by their ability to perceive the organization's goals and reach for their personal goals in harmony with the organizational goals. In other words, the most successful employees are those that are able to operationalize organization's policy in their everyday activity. Organizations gain benefits together with such employees, if they formulate their goals and organize their activity based on the abovementioned principles of successful activity.

In addition, reliability, ethical decisions and social responsibility are mandatory when evaluating not only external policies, but an organization's internal activities as well. For example, ethical activity and the institutionalization of social responsibility helps to reduce employee turnover, increases the organization's attractiveness to investors, and significantly contributes to the development of an organization's good reputation (Viinamaki, 2009).

As a conclusion, it can be stated that boundary between organization *business success* and organization *management success* could be delineated. Business success is determined by the following factors: organizational strategy; human resource management; innovations, R&D; use of informational technologies and electronic business; entrepreneurship; quality of products and services; creation a long-term value by ensuring an efficient organization's internal management. Defining the *management success*, the following elements can be named as common: accuracy and accessibility of information and quality of communication (feedback); inter-personal relationships, teamwork and inter-group collaboration; employees' dedication to organization and support from the highest management; managerial competences of formal leaders; life-long learning and (self-) development; and organizational culture. Nevertheless, *organization performance success* in the context of sustainability is mostly influenced by the balance of management-in-organization and management-of-organization.

## RESEARCH METHODOLOGY

This research was intended to set guidelines for future researches on hybrid organization success factors. Two focus groups participated in the research: leaders and administration personnel of two organizations. These organizations were The Craftsmanship School SODŽIAUS MEISTRAI and Children's Home "Šv. Jono vaikiai" ("St. John's Children").

According to the definition of hybrid organizations, these are organizations that satisfy the public interest, serve the society and carry out activity oriented to profit and growth at the same time. Although ideal examples of hybrid organization are social companies, private custody and education institutions meet the criteria of hybrid organization, too.

When proceeding research, focus groups of both organizations were introduced with the goal of the research and followed by a list of organization activity success factors for their evaluation. The list was created based on organization key success factors' meta-analysis carried out by Raisiene et al. (2014). Focus groups were asked to discuss, evaluate and rank the factors by their importance in a 5 position scale from *extremely important* for organization success and sustainability in a long term to *unimportant* for organization success and sustainability in a long term. The list of factors consisted of 20 positions. Also, the respondents were asked to make additions to the list in case an important factor is missing. In

order to narrow down the field for interpretation of the results, the researcher checked what content (meaning of conception) do the participants assign to particular factors.

The research took place in February and March of 2016.

The generalized results of the research are provided below. This research serves as a pilot stage for wider hybrid organization success factor researches.

#### *Short presentation of researched organizations*

The Craftsmanship School SODŽIAUS MEISTRAI was established in 2002 with the aim to implement a program for helping the so called street children. The goal of the program is both to care for the children and to prepare them to live independently. At the school, pupils are learning a trade for which there is demand in a country, as well as are getting a general education. Craftsmanship School SODŽIAUS MEISTRAI is the first private vocational schools in Lithuania using apprenticeship model. This method provides students with 2 weeks theoretical training in the classroom followed by 2 weeks practical training in companies. Professions taught at the school are carpenter, roofer, confectioner, and cook.

Children's Home "Šv. Jono vaikai" provide family-based child care for boys from 4 to 24 years old. After finishing their secondary education young men have possibility to stay in the Children's Home if they are willing to continue their studies. Social workers of "Šv. Jono vaikai" permanently live with children and teach them how to take care of their everyday needs. In 1996 brothers of St John's congregation Vilnius abbey started caring for children living in the streets. After making a first contact and gaining mutual trust children were invited to a shelter near Vilnius Bus Station where they could spend a night and get something to eat. Later on in four villages in Trakai district in Lithuania permanent children's homes were established. First home was established in 1998. Living there children started going back to school and learning to take responsibility for their lives. In 2012 Children's Home "Šv. Jono vaikai" became a public institution. St John's congregation as a founder is still supervising the activities of "Šv. Jono vaikai". Also, in spite of the municipality supporting this Children's home, the funding is not enough to ensure the quality of work. Due to this reason, the leaders of the organization are working hard in order to attract enough funds for ensuring children's wholesome life, after-school education and hiring social workers and managers.

## **RESULTS**

As mentioned above, focus groups consisted of leaders and administration members from two organizations. They were asked to rank the provided list of organizational success factors. Generalized

results of the interview have shown that leaders of organizations firstly couple organization's success with five factors:

- Clear, well-grounded and long-term strategy of performance;
- Entrepreneurship;
- Quality of products and services;
- Knowledge about the market and competitors;
- Organizational culture.

It is important to note that both focus groups distinguished these factors in particular to be amongst the five most important.

The second in importance group consisted of the following factors:

- Accessibility of the capital;
- Knowledge about clients and their needs;
- Accuracy, sufficiency and accessibility of information for all employees;
- Leaders' knowledge and managerial skills;
- Continuous learning and development;
- Ability to effectively manage finances;
- Organization's image.

The research participants assigned the following factors to the third group of importance:

- Efficient management of human resources;
- Innovations and research;
- Modern ICT (for collaboration with other organizations);
- Employees' commitment;
- Management's support to employees in seeking organizational goals and carrying out everyday assignments;
- Qualified personnel.

Finally, it should be said that in spite of factors "Interpersonal relations, teamwork and collaboration" and "Organization's geographical location" being recognized as the least significant, no factors were assigned to the fifth group of factors - unimportant.

During the discussion, focus groups highlighted that they could not evaluate any factor as absolutely unimportant and ranking the whole list was easy. The respondents emphasized that all factors named by the researchers are important and their importance varies from extremely important to important and to moderately important depending on the situation of organization and challenges from external environment. For example, in the year when a project is won or huge sponsors are attracted, the accessibility of capital may move to the second plan of attention and the importance of employee commitment may increase. On the other hand, extremely important factors tend not to change, because according to the focus groups, they include some of the other factors. This could be said about the organizational culture if speaking about human resource management, as well as could be said about managerial competences if consider about employee commitment, motivation etc. and entrepreneurship. However, the fact that practically all factors were identified as important does not help to increase the probability of organizations remaining sustainable in the future. Every organization should think over its goals and work specifics well and by following that, to decide which fields of care should be always kept at front and which may be only a utility.

## CONCLUSIONS

The research has shown that issues of management-in-organization (arrangement of activities and processes in inside of entity) and management-of-organization (decisions in respect of organization's external environment) are intertwined in the hybrid organizations. In other words, managerial competencies, personnel life-long learning and organizational culture as well as entrepreneurship, knowledge on market and finance are all important for hybrid organizations in order to embody organization's performance strategy and to create products and services that meet the clients' needs best etc.

Although our research was pilot, its results practically prognosticate conclusions similar to those obtained in other researches which examined the organizations working in various fields. A conclusion can be made that organizational success factors are general, conceptual category. Indeed, capacities of the top managers to act in the context of external conditions seems directly affecting the potential of organization's sustainability. However, theoretical knowledge of organizational success factors doesn't determine the substantial success of the organization.

Analyzing driver forces of hybrid organizations in the future, it would be purposeful not to focus on success factors only, but to get deeper into specific, inherent issues of hybrid organizations and the possible solutions of identified problems.

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## E-RETAIL OF LUXURY PRODUCTS IN THE FASHION INDUSTRY

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### ABSTRACT

This paper aims to analyze the influence of the online presence and e-retailing of luxury brands in the fashion industry. E-retail allows consumers to purchase products and services through internet, providing them with advantages in terms of convenience, time and range of choice. Simultaneously, it allows brands to have a global reach, eliminating physical constraints while broadening their number of potential consumers. In the beginning, e-retailing was seen by brands as a useful mean for cheap and undifferentiated products. But the paradigm has changed and today almost every luxury brand has an e-store. A multiple-case study was performed. Four e-retailers of luxury fashion products were analyzed based on semi-structured interviews directed to their managers, in order to gain knowledge on their experiences and perceptions about e-retailing of luxury brands. Results indicate that multi-brand sales websites must be particularly careful with the brands that they select to sell. Priority must be given to brands that have a dynamic and consolidated online presence, and, ideally, be able to blend their on-line presence with physical stores.

**Keywords:** *E-Retail, Fashion Industry, Luxury Brand, Luxury Product.*

### INTRODUCTION

Initially, internet sales were perceived for mass consumption, incompatible with the identity and values associated with luxury and fashion marketing. However, the last few years have noticed a remarkable turn on this idea. Despite the initial resistance of traditional luxury brands to on-line sales, it is unthinkable nowadays for them not have an online presence. The question now is about how to be present, namely, how to use this tool effectively, which contents to publish and in what way.

E-Retail of luxury products appears as a natural consequence of this new paradigm. Nowadays consumers reach easily brands' websites, as well as their social network pages and related blogs. Thus, it seems natural that luxury brands, in particular fashion industry, want to take advantage of this enormous market of active consumers, promoting and selling their products there (Okonkwo, 2009b).

The main purpose of this paper is to study the electronic retail of luxury products in the fashion industry, being the main research question: In what way can online presence and the specific characteristics of e-retail be expanded and strengthened in the luxury fashion industry?

The paper is divided in four sections. The first section consists of the theoretical background, the second comprises the methodology used for the research, the third sections incorporates the results and discussion, and the final section encompasses the conclusions drawn from the paper.

## **THEORETICAL BACKGROUND**

To market luxury one needs first to understand what luxury is about. Luxury is first of all a social marker that drives people to acquire brands. Luxury's DNA sets on the symbolic desire to belong to an upper class. The high price of the products is not enough to define luxury assets. It only measures the wealth of the buyer, but it says nothing about his taste. Therefore, a luxury brand must encode a social distinction (Kapferer and Bastien, 2009).

Luxury is a concept defined within the scope of social psychology as the result of its connection to a culture, way of being and lifestyle, either personal or collective. When related to brands, luxury is characterized by its recognizable style, distinct identity, high notoriety and strong emotional and symbolical associations. It evokes singularity and exclusivity, and reflects on the physical products through quality, controlled distribution and premium price (Okonkwo, 2009). The essence of a luxury product requires the offer of referential quality, followed by an high price, as well as charming and differentiated aesthetics. Luxury is enhanced by the brand by making the product hard to obtain, as well as by adding extraordinary features (Becker and Nobre, 2013).

The meaning of consumer goods exceeds products' functional character and commercial value, becoming a vehicle of cultural significance (McCracken, 1986). That significance traditionally follows the same trajectory: it is usually absorbed by the cultural constituted world and transferred to a consumer good. Afterwards, that significance is absorbed from the object and transferred to an individual consumer (McCracken, 1986). Individuals seek to satisfy their need of freedom and self-definition by looking for a systematic appropriation of the significant object properties. This mission isn't always well succeeded, with a search of significance in objects that do not have it, or building a life around the significance of objects. Usually, however, the individual uses the goods in a free way to build crucial parts of himself and the world (Belk, 1988).

Consumption is increasingly becoming more hedonist and individualist, and consumers buy products not so much for what they are, but especially for what they stand for. This statement does not mean that the primary function of a product is discarded, rather it means that people acquire concepts, not products (Solomon, 1999). Simmel (1904) advocates that fashion has its foundation on two opposite



tendencies: imitation and distinction. It perceives imitation has the transmission of the social to the individual, that is, a phenomenon that allows the incorporation of the values of the group, sustaining the values and actions of the individual. Distinction works by contrast as a need of internal individualization that differentiates individual from the group he belongs, and external individualization that differentiates individual from other social groups.

For decades, luxury brands were managed by the founding family, in a product-centered business, and without any sort of professional marketing. A major turnover point for luxury brands happened when Louis Vuitton and Moët Hennessy merged in 1987, creating the LVMH group, which would become the undisputed leader of the current luxury market, with a portfolio of over 60 luxury brands, evaluated at over 57 billion euros (Heine, 2012). Unlike old times of family management, new investors and stockholders put a constant pressure on luxury brands for profits, but at the same time allow firms to have access to capital to invest in design, marketing and expansion to other countries and market segments (Heine, 2012).

To market luxury is, in itself, a paradox. On one hand, brands want to sell their product as much as they can, but, on the other hand, the traditional definition of luxury implies exclusivity. Luxury product consumers, particularly those with no time or availability to reach physical stores, demand an increase in e-retailing (Chadel, 2009). Thus, to increase profits is nowadays a challenge to luxury brands, as they have to keep themselves apart of mass consumption (Radón, 2012).

Luxury products target consumers at the top of the income ladder. A luxury product is a type of product associated with the senses: the look, the touch, the feeling. Top brands like Chanel, Dior and Louis Vuitton have created incredibly strong brands not just based on the design and quality of their products, but also through the aura of their brand, particularly reflected on the store atmosphere and brand communication (Okonkwo, 2005). The online world is incredibly dynamic and it is constantly changing. It involves interactive and participant consumers, with blogs, brand communities, social networks and other ways of communication. This takes away from the brands some of their image control, but it is also an opportunity from them to promote themselves (Rosa, 2012).

The great challenge of online retailing is set on being able to replicate the luxury physical experience on on-line. The online store design must possess more than just the basic and functional characteristics. It must be able to present a constant influx of innovative methods of differentiation. In that sense, it must resort to key elements like a well sophisticated visual component, a simple and error-proof usability, and the possibility of a substantial website personalization, adapting the experience to the consumer's needs, making him feel special (Okonkwo, 2005).

From the literature review the following exploratory propositions of study are formulated:

**Proposition 1:** The characteristics of fashion and luxury products are reconcilable with electronic retail.

**Proposition 2:** Luxury consumers are increasingly open to e-retail and began to prefer this medium instead traditional retail.

**Proposition 3:** Online presence may contribute to a better performance of luxury brands, in terms of both sales and brand identity.

## METHODOLOGY

This paper aims to study the electronic retail of luxury products in the fashion industry. The study, of exploratory nature, was guided by the main research question: in what way can online presence and the specific characteristics of e-retail be expanded and strengthened in the luxury fashion industry?

In that sense, a cross-case study was performed in order to understand the context of luxury e-retail in depth, guided by the three propositions of study above mentioned. From these three propositions of study three main categories and several sub-categories of analyses were generated (see Table 1). Four cases of luxury fashion firms with experience on e-retailing were analyzed.

Yin (1994) states that multiple-case studies are relevant in studies that have exploratory questions as a starting point, whose purpose is to develop hypotheses and reinforce study propositions that can afterwards be tested. The study of several cases instead of just one ensures a more robust information. Each one of the cases should be analyzed individually, so that afterwards a comparison can be made among all of them (Yin, 1994).

The selection of the firms followed two main criteria. Firstly, firms had to sell luxury fashion brands; secondly, they had an own e-store.

Three multi-brand luxury retailers were selected: a new player named J. LISBON, a small e-retailer Quartier Latin, and a large well-known e-retailer Net-A-Porter. The fourth case is a mono brand company branded with the name of its designer, Egídio Alves, which is one of the major Portuguese brands in the luxury shoes industry. J. LISBON and Net-A-Porter are two cases of pure e-retailers. By contrast, Quartier Latin and Egídio Alves are two firms where physical and digital presence coexist. In these latter cases, e-retail was recognized as not being the company's central priorities, despite both recognizing that it is a growing market.

The only firm for which no primary data was possible to collect was Net-A-Porter. Given that Net-A-Porter is one of the biggest e-retailers in luxury fashion industry, it was considered to be a fundamental piece in this study.

The method of data collection focused on in depth semi-structured interviews directed to firms' website and online store managers. According to semi-structured interview methodology, the

researcher has a series of questions, relatively open, that give guidance to the interview but at the same time favors an open environment where respondent can talk about his perceptions and opinions freely (Quivy and Campenhoudt, 1995). Three managers were interviewed: the founders and current managers of Quartier Latin, J. LISBON, and Egídio Alves. The fourth case, Net-A-Porter, was analyzed through secondary data.

The interviews in the cases of Quartier Latin and Egídio Alves were made in person, at the companies head offices, after previous scheduling. The founders and managers of both companies were interviewed. The interviews were recorded, with the consent of the interviewees, and were later transcript to a text document. In the J. LISBON case, the interview was made through e-mail. The founder and manager of the brand sent his answers by email.

The information collected through the interviews was complemented with secondary data gathered from the firm' websites, and other websites with news and articles about the companies.

## **RESULTS AND DISCUSSION**

From the cross-analysis of the four cases it is possible to withdraw some conclusions. Considering the intrinsic characteristics of luxury opposing to the ones of e-retail, it seems consensual that it is possible to replicate the emotional characteristics of luxury in a digital medium, especially using tools like an adequate website and strong multimedia content, such as photos, music and videos. The replication of the physical characteristics of luxury is less consensual, prevailing the idea that it is possible an approach between the two means, but it will never be possible to replace the physical experience, whether the store environment or the touch on a piece of clothing.

There is also a widespread idea that luxury brands have to fight the exclusivity/accessibility paradox to avoid the trivialization of their products. The recommended formula is the creation of sub-brands, as well as different ranges within the same brand, to ensure the access of different types of consumer to different types of product, enabling, at the same time, to retain customers that look for more exclusive products, while opening the brand to new consumers.

Despite the efforts of trying to make the brand's website a similar experience to the store environment, in the majority of the studied cases it became clear that digital and physical are far from delivering the same shopping experience. As seen in the case of Quartier Latin, physical and online experiences may co-exist and be complementary, providing consumers with alternative buying channels. The consensual idea is that physical and online digital means work simultaneously and in a complementary way.

Three of the cases pointed out that age is not an important factor in e-retail, where all age groups are similarly represented. Only in the case of Egídio Alves was detected a prevalence of consumers ranging from 20 to 40 years old, which can be related with the brand's target.

Category and respective sub-categories of analysis	Quartier Latin	J. LISBON	Egídio Alves	Net-A-Porter
<b>Luxury vs. E-Retail</b>				
Replication of luxury's emotional characteristics in e-Retail	X	X	X	X
Replication of luxury's physical characteristics in E-Retail		X		X
Brand identity communicated through the website	X	X	X	X
Keeping the brand's exclusivity while maintaining sales	X	X		X
E-retail as a priority for the company		X		X
<b>Traditional Retail vs. E-Retail</b>				
Online and physical brand experiences merges in just one brand experience		X		
E-retail is used by different consumer age groups	X	X		X
Convenience and time as the main strengths of e-retail	X	X	X	X
<b>Online as a tool for the brand value</b>				
Online presence decreases the perception of differences between luxury and mass fashion.		X		
Online presence makes the entrance of a new brand in the market easier.	X	X	X	X
Difficulties for brand's growth in the online environment	X	X		
Web 2.0 as a fundamental tool in the construction of the brand image and sales growth	X	X		X

It is consensual that the major advantages of e-retail for consumers are time and convenience. Factors like quick delivery and pre and post-sale service have been also mentioned as crucial. Another important positive characteristic of e-retail that was also mentioned is the bigger selection and quantity of products available, in contrast to a physical store. In sum, time, convenience and stock diversity are considered the three major advantages of e-retail.

The risk of attenuating the differences in luxury versus mass fashion consumer perceptions about their products is something that does not appear to frighten these companies. Only one of the cases

pointed out that possibility. However, results indicate that a strong brand identity and emotional connection with consumers seems to prevent luxury brands to lose their value in e-retail.

It was also clear from the interviews that the online presence favors the entrance of a new brand in the market, benefiting mainly the smaller firms with less resources. However, two of the cases indicated that, after the initial implementation, new brands have struggled with great difficulties to grow online. While the initial investment is almost irrelevant, the investment needed for a sustained growth is very high. Thus, it is very difficult for a small brand to grown in a market dominated by giants.

Web was pointed out in three of the cases as fundamental for luxury brands and their growth, in terms of both sales and brand awareness. Fashion blogs and social media, like Facebook or Instagram, play an increasingly important role in the fashion world. In such way they became a business on its own, and quite expensive as referred in the cases of Quartier Latin and J. LISBON. The Egídio Alves's manager recognized the importance of Web, but claimed that this tool is not essential for the brand and if it disappeared other solutions would be found.

## CONCLUSIONS

E-retail has significant advantages comparing to physical retail, such as its global reach, speed, convenience, great diversity of products, accessibility and availability. On the other hand, it has limitations: the inexistent of physical contact between sellers and buyers, the low cost of exchange (it takes just one click to move to another website) and a less persuasive ability of selling (it is easier to say no to a computer).

The constant novelty in on-line channels makes the task of following these active consumers difficult for brands. Moreover, replicate a phenomenon based on the senses as luxury seems to be so far an unfinished task. The greatest development in the ecommerce of luxury products in the last few years has been the replication of luxury's emotional characteristics, instead of the physical ones. It is not easy to replicate the smell or touch through a digital medium, but it is possible to communicate the brand's values and identity, creating an emotional connection with the consumer. These speed and quick changes are something that were not part of the luxury brands genetic code, traditionally sustained on continuity and heritage (Kim and Ko, 2010). But the online paradigm forced the brands to a fast adaptation, putting pressure on the need to change.

E-Retail is deeply dependent on the online brand image, so it must be seen as part of a whole, and not something able to subsist on its own. Therefore, multi-brand sales websites must be particularly careful with the brands they select to sell. Priority must be given to brands that have a dynamic and consolidated online presence, and, ideally, be able to blend their on-line presence with physical stores. E-retail is growing exponentially, but nothing can truly match the environment of a luxury physical

store. The co-existence of physical stores and e-retail with mutual benefits seems to be the trend for the years ahead for the luxury fashion industry.

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# THE IMPACT OF MATCH-FIXING ON PRODUCT QUALITY IN THE PROFESSIONAL FOOTBALL INDUSTRY: CRITICAL REFLECTIONS FROM AN INSTITUTIONAL PERSPECTIVE<sup>1</sup>

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## ABSTRACT

The problem of corruption affecting economic sectors and institutions has been at the center of a lively political and doctrinal debate for some years now, and despite the introduction of several measures intended to curb such phenomenon, it continues to cause ill-effects in a range of industries, not least of which is the professional sports industry.

This paper focuses on the issue of corruption in professional football and specifically on match-fixing, because of the topicality and international scope of the phenomenon.

Building upon available literature on the subject, this paper discusses the negative consequences of match-fixing from an economic standpoint. It then lays out some potentially useful suggestions for preventing and reducing its occurrence.

**Keywords:** *Match fixing, corruption, professional football industry, institutional perspective, transaction costs.*

## INTRODUCTION

Much of the economic analysis of sports has concentrated on the optimal design of sport competitions, with the aim to devise appropriate incentives for athletes to perform to the best of their capabilities. For example, Rosen (1986) explains the incentive properties of prizes in sequential elimination tournaments. However, empirical research has returned mixed results. For instance, Ehrenberg and Bognanno (1990) demonstrate that the structure of the award-giving process in the Professional Golfers Association directly influences the athletes' performance, whereas Orszag (1994) suggests that the level of the total prize money has an insignificant effect on the total score of the players.

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<sup>1</sup> Even though this paper has been jointly conceived by the authors, for academic purposes the Introduction section is attributable to Vincenzo Scafarto, the Background section to Bruno Marsigalia, the Discussion section and the conclusions to Federica Ricci.

Another strand of economic analysis, also concerned with the optimal design of sport competitions, has concentrated on the market structure of the sports enterprise (e.g. Ehrenberg and Bognanno, 1990; Ross and Szymanski, 2003, Taylor and Trogdon, 2002).

In particular, Neale (1964) notes that the production function in the professional sport industry is unusual in comparison to other industries. As a product, professional sport requires coordination among contesting participants, since by the very nature of the product (a game), teams must agree on a number of matters before the game or competition takes place. This coordination is essential if there is to be any competition in professional team sports, where the central coordinating body is the sport association or league.

As such, Neale (1964) suggests the view of the sports association as a multi-divisional enterprise comprised of different members, the member clubs, which would represent simply multi-plant divisions of the sports association. The multi-divisional sports enterprise delivers the sport product through the cooperation of the member clubs. As a result, the quality of the team sport product is determined by the quality of the interaction between the contestants, namely the displayed skills and performance.

The parallelism between a sports association and a multi-divisional enterprise is conducive to the aims of this paper, since it brings into focus the role of the sport association as a key governing body, which has to play its role in addressing the issue of corruption in football.

Suppose the demand of interested fans rises as the quality of sports competition rises, the sports association has then a clear interest in improving the structure of competition in order to maximize the quality of the product being offered. Thus, via the contest design, including the prescription of the rules subject to which the game is to be played, the sport association tries to provide the contestants with incentives to expend their best playing efforts.

This paper aims to contribute to the literature on the optimal design of sports competitions. In particular, it attempts to provide the sport associations with innovative instruments in order to reduce the probability of match-fixing. The phenomenon of match-fixing tends to reduce the unpredictability (i.e. outcome uncertainty) that characterizes the sport contest, thus reducing the value of the product delivered by the sports association, which could adversely affect spectators' demand and sponsor interest.

On the basis of such considerations, this paper analyzes the phenomenon of match-fixing in professional football, discussing its negative consequences from an economic perspective. Using the institutional theory as a theoretical framework, it then attempts to devise tools for reducing the diffusion of the phenomenon.



## BACKGROUND

Economic research on sports has grown dramatically in the last few years. While a substantial part of the literature has concentrated on the theme of competitive equilibrium (Késenne, 2000; Szymanski and Késenne, 2004), many studies have also been devoted to the issue of corruption in sports.

Sports have always been affected by corruption phenomena since the earliest organized sporting events (Decker, 1995).

In contemporary sports, a number of cases or attempts of corruption have also been documented (Maennig, 2005), notably in the context of team sports. Cricket was one of the first team sports to be affected by corruption scandals. Several authors such as Condon (2001) and Preston, Ross and Szymanski (2001) point out that the poor pay of cricketers relative to sports of comparable significance has favored the rise in bribery cases in cricket.

Duggan and Levitt (2000) found a high corruption rate within the highest spheres of Japanese sumo wrestling, due to a non-linearity in the incentive structure of promotion, leading to gains from trade between wrestlers on the margin for achieving a winning record and their opponents. These findings have been further substantiated by the work of Dietl and Werner (2010), who have found evidence that the structure of promotion offers sumo wrestlers a potential incentive to fix matches.

Preston and Szymanski (2003) have examined match-fixing along with other forms of corruption in sports, such as sabotage and doping. They maintain that match-fixing occurs either because one side “needs” to win to the extent that is willing to make side-payments to persuade the other side not to make an effort or to persuade the referees towards making biased decisions, or because players or officials stand to gain financially from gambling on the outcome of a match.

Considering the connection between betting and match-fixing, it has been noted that the latter can be influenced either by the individual inclination of agents towards betting or by the development of betting social networks. Analogously, in his analysis of gambling in North American football, Scott (1990) revealed a connection between the legalization of gambling and the spread of illegal gambling connected to football matches. More recently, Bag and Saha (2011) have shown that in the presence of a high rate of fixed matches, there are at least three contributing factors: strong illegal gambling networks, high levels of relative exploitation of players and perceived corrupt officials.

According to Caruso (2009), match-fixing could be largely determined by the asymmetry in the evaluation of the stake between the contesting teams, which would leave room for implicit collusion.

Anyway, the phenomenon of match-fixing represents a real threat to the world of sports to such an extent that sponsors and fans could be dissuaded. In this respect, Hing and Zhouxiang (2013) show that episodes of fixed matches in Chinese football between 1990 and 2000 have transformed the passion of

fans into resentment. Given such, match-fixing can be regarded as a form of corruption in that it robs the sport competition of its essential characteristic—that of outcome uncertainty (McLaren, 2008).

## DISCUSSION

According to the classical approach as elaborated by Becker (1968), corruption (and any other intentional or negligent perpetration of an illicit activity) can generally be regarded as a choice made by an individual among a number of legal and illegal alternatives to pursue the course of action which promises the greatest expected net utility for him at the time of deciding.

Specifically, an agent chooses the corrupt alternative when the expected net utility exceeds the level of satisfaction corresponding to the legal alternative.

The formula stipulates:

$$O_j = OJ(pji, fji, uji)$$

where:

- $O_j$  the number of corrupt actions committed by a generic, rational agent in period  $j$ ;
- $p_j$  the probability that the individual is discovered and sanctioned for having committed a crime;
- $f_j$  the expected sanction for the crime committed;
- $u_j$  the cumulative variable of residual factors that influence the agent's preference for corrupt action over that of legal action.

Following the Becker's approach, one can argue that the choice of a corrupt alternative is connected to several individual variables acting as motivating factors.

Generally, in team sports, a match takes place between opposing teams that attempt to prevail over each other, aiming to attain a higher score. From a strictly sports perspective, the contest is dominated by the competition, which is inherent in the nature of team sports and represents the attempt of attaining victory in a sports dispute, subject to the established rules (Simon, 2004).

However, part of the literature points out that, under particular conditions, contesting teams may be motivated to pervert the nature of sport, looking at cooperation as means to maximize their utility function (Caruso, 2009).

The phenomenon of match-fixing is one of the most common forms of cooperation in sports, in which contestants agree on the objective to alter the regular course of the game by fixing match results.

Generally speaking, it is well-known that the world of betting relies on the logic of risk, which consists in gambling money (or other assets) on the uncertain outcome of a future event. Clearly, when the result of a future event is fixed in advance by means of an agreement between economic agents, the risk component falls notably.

In match-fixing, the illegal bookmaker (or the network of illegal bookmakers) agrees with the players upon achieving a certain result, in order to bet money and obtain an economic return. The football players (and/or the referees) that take part in the corrupt agreement obtain a profit which is not necessarily measurable in monetary terms.

The planning behind a corrupt agreement has inherent difficulties, these including the search for corrupt partners and the mode by which the agreement is performed. These difficulties are mainly due to the fact that the agents meet in a parallel (illegal) market, where information circulates with less transparency due to its illegal nature.

In fact, if on the one hand the agents that take part in match-fixing may benefit from an extraordinary profit, on the other they face transaction costs that are generally much higher compared to legally-made agreements.

Economic literature posits that transaction costs play a role of prior importance within economic systems, whether in reference to a firm activity (Coase, 1937; Williamson, 1985; Heannart, 1988; Walker and Weber, 1984; Hill, 1990; North, 1990) or to the economic development of a country (North, 1984).

According to the institutional theory, the costs of transaction in the context of corrupt contracts can ideally be broken down into three groups (Lamsdroff, 2008):

- the cost of accessing corruption;
- the cost of using corruption;
- the cost of maintaining a corrupt agreement.

The costs of accessing corruption include the costs of finding partners prone to corruption, as well as the costs of gathering enough information to allow for an assessment of their trustworthiness. In fact, an explicit offer of bribery exposes the briber to the risk of being charged; on this point, empirical studies demonstrate how the circulation of information on individuals' willingness to take part in a corrupt act increases dramatically the probability of being discovered (Alam, 1990; Borner and Schwyzer, 1999; Rose-Ackerman, 1998). The lack of conventional channels to find potential partners makes it difficult to obtain information on their trustworthiness. In order to overcome such problems, the usual procedure of a bribery deal is to rely on a mediator between the briber and the potentially bribed person, who not only protects the briber from direct exposure but also allows to make an offer towards a wider public (Lamsdroff, p. 141).

With regard to match-fixing in professional football, Hill notes that some contingent factors could facilitate the approach between the briber and the football player. Referring back to fixed matches recorded in the 1950's in the UK, direct testimony has demonstrated the existence of a positive correlation between the player's attitude towards bribery, his social background, and his contractual conditions. Particularly, the contractual obligations of professional football players in the UK at that

time included compliance to severe regulations issued by the club the players belonged to, which were not counterbalanced by an appropriate treatment in terms of social security and compensation.

In general, the presence of precarious conditions facilitates the spreading of corrupt phenomena insofar as individuals seek to obtain an earning through manipulating and/or exploiting the economic environment; in that case, corruption would function as a source of income.

In the context of professional football clubs, players may show a greater inclination to take part in match-fixing when there exist marked differences in wages among players belonging to the same club, as an attempt to bridge the gap.

As regards the motivations behind athletes' inclination to corruption, part of the existing literature considers the player's act of fraud as a way to get a 'revenge' on their rivals (Leaman, 2001). In this respect, Balsdon, Fong and Thayer (2007) view corruption as a likely motivation for systematic under performance in NCCA.

A further variable that may facilitate match-fixing relates to the perception of football players by their own managers. That is, the higher the level of suspicion by managers towards a player, the higher the probability that the player will get involved in a bribery deal.

It should be noted, however, that match-fixing could also take place independently of contingent variables, as a result of individual inclination. Rose-Ackerman (1992) argues that corrupt opportunities can still be encountered at random. The most common opportunities arise between business partners that have well-established legal relationships.

Hill (2008) reveals that athletes who are more aggressive and self-confident are typically more inclined to risk and to match-fixing.

A high rate of fixed matches is most likely found in contests where structured networks of clandestine bookmakers exist, since the physical proximity between players and corrupt agents could increase the probability of corrupt deals. For instance, Sandholtz and Gray (2003) demonstrate that, in general, the geographical proximity with countries notoriously affected by corrupt phenomena correlates with higher levels of corruption.

However, due to the implications of match-fixing for the sports industry, it is necessary to have an active participation of professional football players and/or referees. On this point, empirical studies have revealed that it is more advantageous to involve players rather than referees in match-fixing since, in the former case, the probability of success is equal to roughly 83%, whereas it is 79% in the latter case (Hill, 2008).

After the bookmakers have identified the agents with whom to make a deal, it is necessary to establish the ways of approaching them; in this respect, one can distinguish a direct approach from an indirect one. In the former case, the bookmakers contact the players without any mediator whereas a mediator

is employed in the latter case. A direct approach is generally opted for when an enduring relationship exists between agents, or when some knowledge of an athlete's personality has already been attained. Instead, an indirect approach is generally chosen when there is no pre-existing relationship between bookmakers and players; usually, the mediator is selected from a short-list of former professional players, since they could have easier access to confidential information, as well as to the places where the athletes usually meet, whether during their weekly training sessions or in their free time.

Once the potential corrupt partners have been approached, it is necessary to define the agreement in order to actualize the match-fixing operation. In this phase, the transaction costs of using corruption arise, these including the costs incurred to come to an agreement on such issues as the time period within which the parties should fulfill their performance obligations, the mode of payment, as well as the protective measures against the event of non-fulfillment.

The impossibility to enforce a corrupt deal through legal actions prompts agents to devise alternative instruments of protection (Klein, 1996; Klein et al., 1978; Williamson, 1985).

Among the most frequently used methods for enforcing corrupt contracts, the hostage arrangement must be mentioned (Wiggins, 1991; Williamson, 1983), whereby the stronger party of the corrupt agreement delivers a valuable asset to its counterpart, as a guarantee against opportunistic behaviors; in case of opportunistic behavior, the injured party holds the hostage as a compensation.

Another useful device could be that of paying an advance on the promised payments in order to corrupt agents with an incentive to fulfill their performance obligations. Empirical studies have revealed that corrupt officials in the public sector have often requested advances on payments (Moody Stuart, 1994).

In reference to the phenomenon of match-fixing in professional football, the sporting results to be achieved and the related payments are established in the execution phase of the agreement.

Once the corrupt agreement is finalized, the bookmakers place their bets. The aim of illegal bookmakers is clearly to maximize individual profits; in this phase, the utmost secrecy is to be observed to avoid that other betters could intuitively grasp the presence of an 'information privilege' and thus emulate their decisions.

In the world of bet-fixing, several 'distracting' strategies have been devised to divert the attention of betters towards results opposite to those fixed by illegal bookmakers, even going so far as to tip the 'wrong' team as the winner.

The outcome of bet-fixing is also affected by the time factor, because the later bookmakers place their bets, the higher the probability of attaining a high profit. Indeed, evidence exists that the corrupt players are told the match result to be achieved very close to the beginning of the match. For instance,

an Indonesian bookmaker claimed that he told the 'fixed' outcome to players only a few seconds before the beginning of the match (Hill, 2008).

At the end of the sports competition, the payments agreed upon are delivered to the involved individuals by bookmakers, whether in monetary or non-monetary form.

When the payment is stipulated in cash, it is usually split in two parts; the first being dispensed in advance and the second after the sporting event in order to motivate the players not to disregard the agreement. Also, a tricky question arises as to how such money transfers can be justified: the earnings of professional football players are in fact widely disclosed, for it is necessary to disguise these illegal extra-earnings as legal ones.

In order to deal with this issue, the usual procedure is that the bookmaker re-purchases winning lottery tickets (paying the real winners the prize money) and then transfer them to players so that they can get the payment without drawing suspicion.

Instead, when personal requests are made by players involved, they usually consist of luxury and niche items. In many instances, the mode of payment influences the outcome of match-fixing; in some cases, it has been found that when football players hesitate to take part in match-fixing, the bookmakers may even promise to transfer the player to a more prestigious category and club. Barin and Bernès reported a number of fixed matches, such as those at the AEK Athens and Marseilles in the Cup of Champions between October and November 1989. In Athens, the adversary players were paid to lose the game. Years later, one of the players involved in the scandal at Marseilles – Jean-Jacques Eydelie – exacerbated the controversy, revealing that other players were involved in the match-fixing circle. In particular, he claimed that the usual procedure was that one or two days before a big match former players from the opposing team were asked to contact their friends to ascertain whether someone was potentially open to accept a bribe offer (Hill, 2008).

In any case, one major weak point in match-fixing is the inherent difficulty of predicting whether the parties involved will respect the agreement. Such a difficulty is usually overcome by relying on the 'reputation factor': indeed the degree of trust among the agents appears to be a prerequisite condition for the success of the corrupt contract. In particular, reputation plays a major role in shaping expectations, to the extent that a corrupt individual, despite a past void of opportunistic behavior, can be supposed to re-enact the same behavior patterns in the future.

In this respect, Husted (1994) observes that the choice of corruption does not necessarily imply dishonesty: the aim for a reputation as a honest man is not foreign to corrupt agents since upholding one's reputation over time could prove to be profitable.

Lamsdroff suggests that, somewhat paradoxically, the preference for honesty could have an ambiguous effect on corruption; a negative attitude toward opportunism, along with an inclination to cooperation, could promote rather than inhibit corruption.

Additionally, the higher transaction costs that are involved in corrupt contracts compared to legal ones also relate to the time that follows on the fulfillment of such contracts.

While a legal contract ends with the exchange of goods or services for set profit, the corrupt pact does not end with the agents achieving their aims. In fact, an agent may attempt to extort further payments by threatening a criminal charge.

The corrupt agents may be motivated to file a criminal charge, given that mass media often offer money awards to get access to confidential information. This appears to be particularly the case in the professional football industry given the substantial amount of media exposure.

## CONCLUSION

The above analysis of the weak points in corrupt agreements is conducive to the aim of proposing appropriate measures to reduce and prevent corruption phenomena in the professional football industry, with particular stress on match-fixing.

From this perspective, if the already-high transaction costs involved in corrupt agreements were to be further increased (and unless compensation is adjusted correspondingly), corruption would be no longer a profitable choice.

For this purpose, there appears to be a pressing need for a prevention system against corruption in football, whether in reference to referees or match-fixing, with both sporting and economic ends.

Secondly, harsher punishment for sports corruption is needed, which could be based on an 'asymmetrical logic'. In fact, if agents who turn state's evidence were granted a mitigation in penalty, the self-perpetuating connection between corrupt partners would be threatened and, as a result, risks could increase for both corrupters and corrupted. Furthermore, if the latter were to suffer less severe sanctions in comparison to those applied to the corrupters, the selection for individuals potentially open to corruption would become even more complex, undermining the system efficiency.

To strengthen the sanction system, an international collaboration is urgently needed since the phenomenon of match-fixing and corrupt referees is rarely occasional: instead, it generally represents the by-product of an organized system of transnational reach.

From a strict 'sporting' or 'competitive' standpoint, it would be necessary to review the format or technical rules of the tournament; in fact, previous works emphasize that bribing opponents usually occurs since the rewards for winning are highly asymmetric (Preston and Szymanski, 2010). The asymmetry in the evaluation of the stake between contesting teams could be particularly marked in

some stages of the championship, most notably in the final stages. Arguably, it could prove useful to propose a system of qualification and direct elimination at the end of the regular season in order to determine the winning team, that is, the team that has the right to qualify for a possible successive competition. Such a method, commonly known as the “play-off and play-out mechanisms” could strengthen the sporting competition: since both contesting teams would aim for victory, the possibility of cooperation would be significantly reduced.

The play-off and play-out method is presently adopted in various team sports, including tennis, basketball, volleyball, rugby, water polo and baseball.

In the 1990’s, this method was introduced in Italian football, too: it was first adhered in the lower (C1 and C2) championship divisions.

In the second division of Italian football (“Serie B”), direct elimination rounds were introduced instead in the 2004/2005 season, determining the promotion of the third team to the Serie A (first-League); the model derives from the Football League Championship, the second English division, where the system has been in use for a number of years now.

Generally, in order to prevent and reduce the phenomenon of match-fixing in professional football, it is necessary to consider the social impact of the phenomenon. Sports is in fact a largely studied proxy for social identity, both at national and regional level; for instance, some studies have examined the role of social identity in the context of rugby in New Zealand (Fouguere, 1989) as well as in the context of cricket in the County of Yorkshire (Russel, 1996). Other numerous studies have focused on social identity in football as shaped by different national cultures (e.g. Falk, 2005; Gebrmann, 1997; Armstrong and Giulianotti, 1999).

The role of sports has also been studied considering its strong bearing on the level of economic development of a country. Developing countries suffer from a deficiency in physical and sport education, as well as from a lack of financial support and adequate infrastructures. The level of sports diffusion represents, therefore, another indicator of economic development (Andreff, 2001).

If sport is to be a chance for socio-economic growth and development, orienting agents towards an ethically-correct behavior in sports is all the more necessary.

In the professional football industry, such an objective could be achieved both through a more conscientious media coverage and through a contribution by players’ agents.

Conscientious media coverage implies a steady monitoring of information, such as to disclose only the cases of sports corruption that have actually been proven. Such a monitoring system could prove useful as a means of raising awareness – among players and other stakeholders – of the risk associated with corruption, playing on the fact that corruption, once discovered, will be appropriately sanctioned and disclosed, thus affecting their reputation.



Secondly, the spread of only verified information could be useful in reducing media opportunism, which could favor the spreading of a distorted “culture of corruption.” In this regard, studies claim that the higher the level of corruption perceived by individuals involved in the sports industry, the lower their moral threshold registers (Warren e Lufer, 2009).

If, on the one hand, an appropriate monitoring system on the range of media that revolve around the world of professional sports would be desirable, it is important not to understate the possible obstacles to its effective implementation. These are mainly due to the fact that the very same *media* have an interest in spreading information since they invest substantial resources for the rights to broadcast the sporting events.

On the other hand, the role of players’ agents has gained prominence in the last few years, as regards the responsibility to assist and negotiate on behalf of football players on one or more issues, such as the agreement and transfer of players’ contracts. So, arguably, their role as ‘guardians’ of the players’ best interests should also include preventing them from getting involved in match-fixing, e.g. through raising their awareness on the risks and consequences.

The reduction of corruption in professional football calls for a structured maneuver focused on the inherent weak points of corrupt agreements; in particular, there appears to be a pressing need to raise awareness on the possible impacts of corruption on the welfare of relevant stakeholders.

In the mid-to-long term, if the phenomenon of corruption should not be curbed, football would risk losing its appeal to the extent that it is deprived of the components of uncertainty and suspense that by its very nature permeate the sports competition. This could adversely affect the role and interests of several stakeholders: so, for instance, the role of referees that could over time be superseded by technology-based mechanisms in an attempt to reduce discretion and human error to a minimum; also, professional football players would also risk to incur a cut in wages; eventually, a decrease in the uncertainty of the competition outcomes could also affect the interests of the press and new media, which could lose customers.

In light of the discussion herein, one could conclude that corruption benefits above all the agents belonging to organized crime, though it exposes them to huge risks are associated to the possibility of being discovered and criminally charged.

From this perspective, future research should aim on the one hand to quantify the overall negative effects arising from corruption, and on the other to explore the existence, at club level, of a relationship between corruption, organizational behavior and performance.

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## STOCK MARKET ANOMALIES. EMPIRICAL EVIDENCES IN FOUR EUROPEAN COUNTRIES

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### ABSTRACT

One of the most important principles used in measuring the market's efficiency is the ability of prices to reflect all available information. The Efficient Market Hypothesis (EMH) is the proposition that current stock prices reflect all available information about the value of the firm (Fama, 1965) and that there is no way to earn excess profits by using this information. However, evidence against the EMH is growing. Scholars have been studying the calendar anomalies that are one of the characteristics of financial markets, and these anomalies are found to contradict the EMH. This paper examines day of the week and month of the year effects in four European stock market indexes in the period 1998-2007. Recognizing that returns are non-normally distributed, auto correlated and that the residuals of linear regressions are variant over time, I use statically robust estimation methodologies, including bootstrapping and GARCH modelling. Although returns tend to be lower in the months of August and September, I do not find strong evidence of across-the-board calendar effects, as the most favourable evidence is only country-specific. Additionally, using rolling windows regressions, I find that the stronger country-specific calendar effects are not stable over the whole sample period, casting additional doubt on the economic significance of calendar effects.

### 1. INTRODUCTION

One of the most important criteria used in measuring the market's efficiency is whether or not prices reflect all available information (information efficiency). The Efficient Market Hypothesis (EMH) is the proposition that current stock prices fully reflect all available information about the value of the firm and that when using this information, there is no way to earn higher profits.. Consequently, there is no reason to believe that prices are too high or too low. Security prices adjust before an investor has time to trade on and profit from a new a piece of information. So in an efficient market prices reflect all accessible information: it's impossible to beat the market. Investors pay a fair price. This means that

the only thing investors have to worry about is selecting which risk-returns-trade-off they want to be involved with.

However, the EMH has received a plenty of attention since its inception. At first glance, it may be easy to see a number of lacks in the efficient market theory. In fact, evidence against the EMH is mounting, and numerous studies have documented return predictability (Rossi, 2016). Despite its relative simplicity, this hypothesis has also generated considerable controversy. After all, the EMH questions the capability of investors to consistently perceive mispriced securities (Rossi, 2015). For these reasons, scholars have recently been studying calendar anomalies that are characteristic of the financial markets and finding that they contradict the EMH (Nasir et al., 2016). The purpose of the paper is to investigate the calendar effects in four European market.

## **2. A BRIEF LITERATURE REVIEW**

During the 1970s, many empirical tests were conducted to demonstrate the informational efficiency of stock markets. In contrast, during the 1980s, 1990s, and over the last fifteen years, much has been written with the goal of demonstrating the markets' inefficiency by identifying orderly variations in stock prices related to the calendar of the civil year (Rossi, 2015). In this section I describe calendar anomalies across the globe among markets with different micro-structures. Calendar effects (or 'seasonal effects') are cyclical anomalies in returns, where the cycle is based on the calendar. The calendar time hypothesis states that the market works differently at different hours of the day, on different days of the week, and at various times of the month and year. Various studies have been conducted on this topic. The most important calendar anomaly is the January effect: "as goes January, so goes the year" is a popular rule in the stock market. The earliest evidence of abnormal stock returns in January for U.S. stock markets was underlined by Wachtel (1942). Rozeff and Kinney (1976) were the first to properly report this effect in the U.S. equity market. They found a seasonality in monthly rates of return on the New York Stock Exchange (NYSE) from 1904–1974. Similar results were reported by Gultekin and Gultekin (1983), Barone (1990), and Agrawal and Tondon, 1994. They showed abnormal positive returns in major industrialized countries. Another important anomaly is the day of the week effect. This was first documented by Osborne (1962) in the US stock market and was later analysed by many scholars (Cross, 1973; French, 1980; Gibbons and Hess, 1981; Lakonishok and Levi, 1982; Keim and Stambaugh, 1984; Rogalski, 1984; Jaffe and Westerfield, 1985; Jacobs and Levy, 1988; Jaffe et al., 1989; Barone, 1990; Wang et al., 1997). Typically in the US., low mean returns are observed on Monday in comparison to the other days of week. Mean returns on Friday are observed to be positive and abnormally higher than the mean returns on other days of the week

The turn-of-the-month (TOM) effect was first identified by Ariel in 1987 for the US equity market. His study covered a period of nineteen years (1963-1981), focusing on the last day of one month and the first three days of the following month. He observed that mean returns are higher at the end of one month and at the beginning of the next month. Lakonishok and Smidt (1988) extended Ariel's analysis. They used a ninety-year sample period (1897-1986) and a narrow study window of front-trading days comprising the final trading day of one month and first four trading days of the next month. They find evidence of strange returns around the turn of the week, around the turn of the month, around the turn of the year, and around holidays. Barone (1990) analyses the Italian stock market. He found a difference between the first and second halves of the calendar month.

Although the efficient market hypothesis was widely accepted by academic financial economists, over the last few years the evidence against the EMH has grown. The analysis of calendar anomalies have attracted the attention of a large number of scholars, but results have often been mixed.

### 3. DATA AND METHODS

We collect from the webpage of Yahoo finance daily data on four European stock market indexes, for the period beginning in January, 1998 through to December, 2007. The countries are: France, Germany, Italy, Spain.

For all indexes, daily returns are computed as:

$$r_t = \ln (P_t/P_{t-1})$$

Where  $r_t$  is the daily return of the stock market index and  $P_t$  is the stock index at date  $t$ .

We find that the mean daily returns range between 0.017% in France and 0.033% in Spain. In that fourteen year period, the maximum daily returns have been registered in Germany (+7.27%), while the minimum daily returns happened in Italy (-10.64%). The standard error of the mean is lower in Italy (0.0002091), suggestive of lower return volatility, and higher in Germany (0.0002455), a signal of relatively higher volatility. This paper analyses daily returns of stock market indexes, comparing the daily returns on specific calendar periods (e.g. the day of the week and the month of the year, with the daily returns of the remaining days outside the period under scrutiny). Calendar effects can be studied either using observations of returns of individual stocks of a specific country, or by examining the behaviour of a stock market index (French, 1980, Keim and Stambaugh, 1984, Rogalski, 1984, Chang et al, 1983, Basher and Sodorsky, 2006). Officer (1975) affirms that calendar effects are more easily detected in market indexes than in individual stock prices. For the stock market indexes, a common method in the literature consists in estimating the following formula. For the day of the week effect, the formula coding Monday as 1, Tuesday as 2, Wednesday as 3, Thursday as 4 and Friday as 5:

$$r_t = \alpha + \beta_1 D_{1t} + \beta_2 D_{2t} + \beta_3 D_{3t} + \beta_4 D_{4t} + \beta_5 D_{5t} + \epsilon_t$$

Where:

- $r_t$  is the daily return of the stock market index,
- $D_{it}$  are dummy variables which take on the value of 1 if the corresponding return for day  $t$  is a Tuesday, Wednesday, Thursday or Friday, respectively and 0 otherwise,
- $\beta_i$  are coefficients which represent the mean excess daily returns on the remaining days of the week, relative to Mondays,
- $\varepsilon_t$  is the error term.

In this specification, the t-tests of the  $\beta_i$  coefficients inform us if they are statistically significant: i.e., if the excess daily returns on Tuesdays, Wednesdays, Thursdays and Fridays, either positive or negative, are significantly different from Mondays' mean return. With this model I hope to recognize a Monday effect, if I find out that the mean daily return of that day differs significantly from the mean daily return of non-Mondays.

An alternative approach is to estimate five equations separately, each aiming to detect a specific day of the week effect:

$$r_t = \alpha + \beta_i D_{it} + \varepsilon_t \quad (1)$$

For the month effect analysis, the approach is to estimate twelve equations separately, each aiming to detect a specific month of the year. I've twelve different dummies,  $M_i$  ( $i=1$  to 12), each taking on the value of 1 if the corresponding return for day  $t$  is of January, February, through December, respectively and 0 otherwise. With this approach, month effect analysis is more burdensome, because I need to estimate twelve separate equations, one for each month:

$$r_t = \alpha + \beta_i M_{it} + \varepsilon_t \quad (2)$$

This is a general model, that any specific calendar effect can be studied in this way. We need to construct the dummy variable to take the value of 1 in the relevant days. Some authors (Engle, 1982) propose the use of autoregressive conditional heteroscedasticity (ARCH) models in order to correct the variability in the variance of the residuals. These models assume that the variance of the residuals ( $\sigma^2$ ) is not constant over time and that the error term can't be showed  $\varepsilon_t \sim iid(0, \sigma^2)$ , as assumed in OLS regressions.

The generalized version of these models (GARCH) is developed by Bollerslev (1986), where the variance of the residuals is expressed as the sum of a moving-average polynomial of order  $q$  on past residuals (the ARCH term) plus an autoregressive polynomial of order  $p$ , on past variances (the GARCH term):

The aim of this research is to detect calendar effects in two cases:

- a. month effects, and
- b. day-of-the-week effects.

We first address the problem of heteroscedasticity by regressing the models in Stata 10 software, with the option of robust standard errors switched on. We perform a test of ARCH effects on data, and confirm that it is present in the data for all countries. Therefore I re-estimate all our models with the GARCH (1,1) approach.

#### 4. DATA ANALYSIS

Considering the previous discussion, we use the following procedures to detect calendar effects in the daily returns of all four stock market indexes, in the period 1998 to 2007.

##### 4.1 OLS regression

We start by computing individual OLS regressions for each of the four countries, using model (1) for day of the week effects and (2) for month effects.

One of the important critiques to previous studies of calendar effects, is that it may well be exclusively a result of data mining (Sullivan et al., 2001). To control for data-snooping, Cooper et al. (2006) propose a randomized-bootstrap technique, and Schwert (2003) suggests the use of data from other countries. In this analysis the first results aren't immune to the critique of Sullivan et al. (2001). In day of the week effects, the number of significant coefficients is 2 at the 1% significance level, 5 at the 5% and 5 at the 10%. The number of significant coefficients that I might expect to find, in random data, would be around 1 (at 1%), around 3 (at 5%) and around 7 (at 10%). So, overall results for day of the week effects aren't very different from those we might expect to obtain, in a randomly constructed sample. For month effects, the number of significant coefficients is 5 (at 1%), 8 (at 5%) and 15 (at 10%). Global results are similar to the number of significant coefficients I might suppose to find in random data at 5% (9) and 10% (15).

As first consideration, January returns tend to be higher than in other months, but are only significant, at 5%, in two countries (Italy and Spain). Second, for all countries, daily returns tend also to be higher in April (but not significant at 5% level) and in the October, November and December (but only significant in one countries). Third, all countries show lower returns than average in August and September. The stronger month effect is clearly September. If no month effects existed, the probability that in any given month excess returns are negative is 0.5, for any country. If we assume independence between the stock markets, the probability that all countries have negative excess returns in the same month is  $0.5^{12} = 0.024\%$ . As there are 12 months, the probability of getting this result in our study would be small:  $0.024\% \times 12 = 0.288\%$ . However, these stock markets are correlated with each other, so contemporaneous movements in all stock markets are expected to happen, and are not necessarily evidence of an investor behaviour based month effect.



## 4.2 GARCH Model

To test the robustness of the results presented in previous section, bootstrapping can be applied to the OLS regressions, as Sullivan et al. (2001) propose. We perform a test of ARCH effects on data, and confirm that it is present in the data for all four countries. Therefore we reestimate all our models with the GARCH (1,1) approach. As additional evidence, we compute a Kruskal-Wallis equality-of-populations rank test, by dividing daily returns in different groups (months or days of the week), and determining if the null hypothesis that all groups come from the same population. This is similar to a one-way analysis of variance with the data replaced by their ranks. Because this is a non-parametric test, it does not depend on the data being normally distributed. I choose to consider exclusively which day of the week effects remain significant, at a level of 5%, for each of the statistical methodologies applied.

Overall, the only country who reveal a stronger day of the week effect are Germany. In fact, the day of the week effect is significant in Germany. In particular data show a positive Tuesdays for this country. As in day of the week effects, we find no overall effect covering the full spectrum of countries under study, as there are no month effects for all countries and the effects initially detected in some countries do not resist to more robust statistical methodologies, such as France and Italy. On the other hand, the stronger month effects include:

- a. Germany has positive excess returns in February and negative in September;
- b. Spain has positive excess returns in January, and negative in May.

The sample covers a period of ten years, between 1998 and 2007. As an additional robustness check, we investigate if the calendar effects perceived are constant, over the whole period under analysis. It may be the case that the global results are affected by short-run phenomena, in only a few of the years under study. To test the time stability of the coefficients, we compute rolling window OLS regressions on the most significant coefficients detected in day of the week and monthly effects, both for positive and negative excess returns. We choose four cases: (i) for positive day of the week: Germany/Tuesday; (ii) for negative day of the week: France/Monday; (iii) for positive month: Spain/ January; (iv) and for negative month: Germany/September. In the rolling window OLS regressions, we use a window size of 1000 observations (roughly equivalent to four or five years of observations), and a step size of 200 observations. This means that the first regression uses observations [1;1000], the second regression uses observations [201;1200] and so on. Given the number of observations available, we compute rolling regressions for each coefficient.

In all four cases, the coefficient that captures the calendar effect fluctuates significantly, as the windows of observations evolve. In the case of Germany/September, the coefficient becomes positive both in the 9th and 10th regression, decreasing again sharply after that. In more than half the

regressions, the upper bound on the 95% confidence interval is a positive return. In the case of Spain, the January effect seems to be due mainly to the observations in the first years in the sample, as the effect wears out in the last eight windows of observations. In the case of Germany, the Tuesday effect changes radically from window to window, with periods of higher returns shortly followed by periods of lower returns. It is only in the last window that the lower bound of the confidence interval is clearly positive. Finally, the Monday effect in France seems to be only a recent phenomenon, as it did not exist in the first windows of observations. Taken together with the results of the previous sections, this evidence of high instability of the calendar effects coefficients casts further doubt on the significance of the month and day of the week effects in European stock markets.

## 5. CONCLUSIONS

There are a lot of studies documenting day of the week and month of the year effects, particularly in US markets, although international evidence is constantly growing, but with mixed results.

In this study, we apply robust statistical methodologies and consider only the calendar effects that are significant under all alternative methodologies. Main findings are the following. First, we find no strong convincing evidence of an across-the-board calendar effect in four European countries. In particular, these countries seem to be mostly immune to day of the week effects. The only across-the-board calendar effect that warrants further investigation is the general tendency for lower returns in the months of August and September. All the calendar effects are basically country-specific.

Second, the number of significant coefficients we detect is very similar to the number we would expect to find in random data.

So, some of the apparently stronger calendar effects may well not be the result of economic motives, market microstructure, or behavioural traits, but may rather be only lucky snapshots of capricious movements in the stock market indexes. For this reason, I suggest as avenues for further research, the following. First, some preliminary results I obtain on day of the month effects, which I do not report, signal that this may be the type of calendar effect more relevant in European countries, justifying specific research. Second, the use of data on firms instead of indexes, allows the study of calendar effects by firm characteristics. Third, I need more studies using broader sets of countries, to determine if calendar effects are across-the-board or only country-specific. Fourth, a closer look at the low August/September returns in Europe, and the study of the reasons behind that effect, if it is confirmed.

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## EMPLOYABILITY ATTRIBUTES REQUIRED FOR ENTRY-LEVEL MARKETING JOBS IN SELECTED SECTORS IN SOUTH AFRICA

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### ABSTRACT

The diversification of the marketing industry offers graduates a whole range of new job opportunities in a variety of sectors. This study is one of the first to examine the employability attributes required from graduates across four large sectors in the marketing industry of South Africa. The data for this research were collected via an online survey with 390 respondents in marketing positions across South Africa. There were notable differences in the skills dimensions required for entry-level marketing jobs between the selected sectors. Integrity or ethics appear to be much more important than that which was documented in earlier research; while leadership was regarded as the least important skill. The findings have several implications for the development and redesign of curricula, in order to produce employable marketing undergraduates, and to assist universities in retaining the competitive edge in the Higher Education market.

**Keywords:** *Marketing industry sectors, Higher Education, South Africa, skills conceptual knowledge.*

### INTRODUCTION

The intense competition amongst Higher Educational Institutions for human and financial capital has forced them to become more business-oriented. This has resulted in greater emphasis on marketing strategies, in order to gain a competitive advantage, and a larger national – as well as an international market share (Constantinides and Stagno 2011; Lee and Sehoole 2015). The increased focus on marketization in Higher Education, and the potential benefits of applying marketing theories – in addition to those concepts that have been effective in the business world – are also being recognised by prominent researchers in the field of Higher Education marketing (Hemsley-Brown and Oplatka 2006).

The current research literature focuses on three areas within the supply-side of Higher Education marketing: firstly, marketing communications, such as marketing communication techniques (Constantinides and Zinck Stagno 2011), communicating image and reputation (Lee and Sehoole 2015), as well as consumer behaviour or decision-making issues (De Jager and Du Plooy 2010). Secondly,

there is the applicability of marketing models, such as transactional versus relationship marketing (Sultan and Yin Wong 2012) and marketing products versus service marketing (Hemsley-Brown and Oplatka 2006). And thirdly, there is strategic marketing that incorporates segmentation and targeting (Constantinides and Stagno, 2011), as well as positioning and branding (Pinar et al. 2011). Whilst these are all vital issues in Higher Education marketing, there is a paucity of research on the demand-side of Higher Education marketing (de Boer and Jongbloed, 2012).

Consequently, the focus of this article is on the employability attributes of new marketing graduates, as demanded by employers in different marketing sectors. Some researchers have investigated the attributes required from students, in order to be successful in businesses in general (Andrews and Higson, 2008); as well as within marketing – such as the expertise needed for specific posts (Gray et al. 2007), at different levels (Shlee and Harich 2010; Kelley and Bridges, 2005), or at undergraduate-entry level (Davis et al. 2002; Stringfellow et al. 2006; Walker et al. 2009; Wellman 2013). However, these have all been conducted in developed markets, such as Europe (Andrews and Higson 2008; Wellman, 2013), the USA (Shlee and Harich 2010) and Australia (Walker et al. 2009), but not yet in a developing context, such as that of South Africa. Furthermore, none of these studies have determined whether the various sectors in the marketing industry differ with regard to their perspective on the skills and knowledge areas required from marketing graduates. To fill this gap, this study investigates the employability attributes required of new marketing graduates seeking employment in different sectors.

In the next section, the relevant literature on Higher Education marketing, and the employability of graduates, will be reviewed. It then discusses the research methodology and presents the results. Finally, the article provides conclusions, summarises the limitations, and recommends some areas for future research.

## THE LITERATURE REVIEW

Before reviewing empirical studies, it is important to distinguish between conceptual knowledge and skills, which pertain to the acquisition of employability attributes. Student employability refers to a set of achievements – understandings, skills and personal attributes – which make graduates more likely to gain employment and be successful in their chosen occupations. These attributes benefit them personally, as well as the workforce, the community and the economy (Wellman 2010).

Understanding or conceptual knowledge refers to the subject areas found in most marketing curricula; and it focuses on the theoretical background of the discipline (Schlee and Harich, 2010). The focus of this article is on the skills required. There has been considerable debate in the literature about the terminology for skills, which can also be referred to as ‘core skills’, ‘key skills’, ‘competency’ or

'transferable skills. For the purpose of this article, those skills that are broad-based skill types are generally applicable to all jobs in businesses (Wellman 2010).

A number of studies have been published examining the employability attributes required for success in the workplace – from the perspective of both the alumni and employers. Some authors have focused on the requirements at entry-level. Middleton and Long (1990) used the content analysis of advertised vacancies and surveys with employers, to assess the marketing curriculum, in order to produce graduates with the appropriate skills. Interestingly, employers were not really able to grasp or articulate the specific skills they required from these applicants. Perhaps even more worrying, is the extent to which employers could not distinguish between the performance of marketing and non-marketing trained entrants to their companies – either at the stage of recruitment, or when they are already in a post. Kelly and Gaedeke (1990) examined the student and employer evaluations of the potential hiring criteria for entry-level marketing positions. Oral and written communication, interpersonal skills, personal attributes, enthusiasm/motivation and related work experience were identified as being the most important criteria for filling entry-level marketing positions. The lack of communication skills, practical experience and clear career goals of newly graduates were a major concern for most of these employers. Davis et al. (2002) compared the importance of key skills and knowledge areas with the perceptions of marketing alumni in the USA on their academic preparation in these areas. The findings indicated that graduates seem to be underprepared in terms of skills and over-prepared in knowledge areas.

The importance of skills was also confirmed in more recent studies. For example, Walker et al. (2009) conducted in-depth interviews with graduates and employers, in order to explore their perceptions of graduates and their employers as regards the skills, knowledge, and competencies that are essential to make any progress in a marketing position. Employers emphasized the importance of soft skills, such as communication and analytical skills, when entering the marketing industry. However, graduates have to be prepared to show an appropriate blend of these soft skills, together with some conceptual knowledge of marketing, in order to be effective. Once again, it was revealed that knowledge per se is not the most sought after requirement; but the ability, comprehension, and experience to be able to use that knowledge in the correct way for a specific business situation constitutes the top priority. This ability should provide graduates with an explicit competitive advantage in the job market.

Shlee and Harich (2010) conducted a study to identify the skills and conceptual knowledge required; and they did so by analysing the content of vacancies advertised on Monster.com (highly visited employment website). Fascinatingly, personal ethics or ethical decision-making skills were indicated as far more important for entry-level jobs, than for all other job levels. The findings revealed that extensive

and specific skills were required for success at entry- or lower-level marketing jobs. In addition to oral and written communications and the ability to work in multicultural teams, contemporary marketing graduates must now also possess significant technical skills to allow them to analyze information in databases and on the Internet. Thus, marketing graduates can no longer be taught solely about the importance of Internet marketing and CRM; but they should also be able to analyze the relevant information in those areas. It was emphasized that new and recent marketing graduates rely more on skills, than on marketing knowledge for their jobs.

Wellman (2010) also used content analysis of internet-advertised posts on a number of web sites to develop profiles of the common attributes required from new and early career marketing graduates. The value employers place on marketing degrees seemed to be a concern, as most did not demand a degree; but it was experience that was generally required. The most common skill areas required included communications, interpersonal relationships, information and communication technology, planning, self-management, decision-making and problem-solving. A number of personal attributes, such as creativity and confidence, were also commonly required.

Some focused on the employability attributes required for being successful in businesses in general. For instance, Andrews and Higson (2008) analysed graduate and employer perspectives on business-graduate employability in four European countries (UK, Austria, Slovenia and Romania). Employers in all four countries expected the graduates to be employable or employment-ready; and thus, they should be equipped with the necessary skills and competencies, and able to practically apply knowledge to solve business problems. It was evident that both graduates and employers valued the experiences and knowledge gained during work placements, internships and other part-time employment. Both these role-players regarded written and oral communication skills as important factors impacting graduates' employability. A concern raised by graduates was that they had not been able to gain sufficient expertise or experience in making verbal presentations whilst in Higher Education, implying that the lack of communication skills inhibits employability, and should therefore form part of the undergraduate curriculum. An interesting finding is that graduates identified team-working skills as being a vital part of their portfolio; while employers appreciated graduates that are able to think independently and innovatively.

Other studies also documented the importance of training in oral and written communication and critical thinking skills – not only for entry-level jobs in businesses – but also for advancing into higher-level marketing jobs. Grey et al. (2007) surveyed marketing managers, academics and senior students in New Zealand on the skills essential for working as a marketing manager. An ability and willingness to learn about product-markets, to solve marketing problems, to communicate with any internal and

external stakeholders, and to work in teams, in addition to the knowledge of a wide range of marketing subject areas, were regarded as essential skills. In order to progress from lower-level posts to higher posts, marketing graduates need to develop strategic thinking, leadership and management skills; and they must demonstrate some knowledge of strategic planning, product and brand management, communication and promotion, and consumer behaviour.

## **PURPOSE AND OBJECTIVES**

In the light of the above discussion, the research object of this article is as follows:

To establish whether there are differences in the perspectives of potential marketing employers in each sector on the employability attributes required from marketing graduates.

From the research object, the following hypotheses were formulated:

- H<sub>1</sub>: Marketing industry sectors differ regarding the personal attributes required from new marketing graduates seeking employment.
- H<sub>2</sub>: Marketing industry sectors differ regarding the communication skills required from new marketing graduates seeking employment.
- H<sub>3</sub>: Marketing industry sectors differ regarding the cognitive abilities required from new marketing graduates seeking employment.
- H<sub>4</sub>: Marketing industry sectors differ regarding the interpersonal skills required from new marketing graduates seeking employment.
- H<sub>5</sub>: Marketing industry sectors differ regarding the knowledge areas required from new marketing graduates seeking employment.

## **THE RESEARCH METHOD**

### *Data collection and sampling*

The target population comprised respondents in marketing-related positions across seven sectors in the marketing area of South Africa. Selected industry members from the advisory board of the marketing department at a larger Higher Education institution helped the researcher with the designing of the sample plan, and to access the relevant sample databases. This sampling method was deemed most appropriate; since a reliable and professional authority in the marketing field helped with assembling a



representative sample of the seven sectors in the marketing industry; and this resulted in saving time and money (Iacobucci and Churchill, 2010).

The sample was quasi-randomly drawn from three frames. Firstly, 400 questionnaires were distributed to clients in a marketing-related position of a reputable marketing and sales recruitment agency. Consequently, 600 questionnaires were sent to the subscribers of two specialist online publications in the marketing environment. The sample databases were screened, to avoid duplication, and to ensure that only one questionnaire was sent to each of those in marketing-related positions in each of the companies.

Online survey was distributed via email to the respondents on the databases. Continuous reminder emails were sent to the non-respondents until a 39% response rate, or a total of 390 questionnaires, had been received. This was deemed as adequate, based on the recommendations of Nulty (2008). This author maintained that online surveys are much less likely to achieve lower response rates (on average, 33%) compared to paper-based surveys (56%). A comparison of the results of the questionnaires submitted early (one month) and those returned later (after one month) was also done, in order to minimize any non-response bias. Since those replying later did not differ significantly from those who had applied earlier, it may be assumed there was no non-response bias from those who had previously failed to respond (Iacobucci and Churchill, 2010). The reasonable sample size helped to ensure data stability and to enable selective hypothesis testing.

#### *The measuring instrument*

The questionnaire consisted of two sections: (1) The characteristics of the sample; (2) the importance of skills areas. Dichotomous and multiple-choice questions were used for sections one, while the items in the scales of section two were measured on a five-point scale, with 1 representing 'Very important', and 5 representing 'Not important at all'; so that the researcher could establish the level of importance for the particular items included in each category.

The scales by Gray et al. (2007) and Andrews and Higson (2008) were used as the basis to quantify the industry's perspective on the skill areas required from the marketing graduates. After a series of discussions with seven marketing managers from each of the sectors included, some items were added or adopted, in order to meet the context of contemporary marketing in South Africa. For example, the ability to communicate by using electronic means, such as emails, and to work in a multicultural team, had to be included in the skill dimension.

A pilot test with the questionnaire was carried out with 20 subjects. These were not included in the sample utilised to establish the reliability. Construct validity refers to the extent to which the variables in the study are accurately and completely identified before hypothesizing any relationships; while face validity is simply whether the test appears, at face value, to measure what it claims to measure (Hair, Bush and Ortinau, 2010). For this study, construct validity was ensured by using a questionnaire based on a research instrument used in similar studies by Gray et al., (2007) and by Andrews and Higs (2008). When pretesting, the questionnaire tested the face validity; and the feedback from the respondents was used to identify and address any potential problems. Reliability refers to the accuracy or precision of the measuring instrument (Hair, Wolfinbarger, Ortinau and Bush, 2010). In this study, the reliability was established by using a pilot test and collecting the data from twenty subjects who were not included in the sample – with a Cronbach's alpha coefficient for the four skill and knowledge dimensions meeting the minimum criterion of 0.7 (Nulty, 2008).

#### *The data analysis*

A statistical data analysis was performed using the IBM Statistical Package for the Social Sciences (SPSS) Version 23 software. For the hypotheses, the assumption of normality was assessed through the Kolmogorov-Smirnov test; and via a visual examination of the histograms and normal-probability plots. This showed that the data deviated to a great extent from a normal distribution. Therefore, the non-parametric Kruskal-Wallis H test, using the SPSS Statistics' new non-parametric procedure, which includes a post hoc test to determine where the differences lie between the sectors that were used. The researcher relied on a 95% level of confidence, and a subsequent significance level of 5% ( $p\text{-value} \leq 0.05$ ) to interpret the results of the hypothesis testing.

## **THE RESULTS**

The profile of the sample in Table 1 reveals that involving selected industry members in designing the sample plan, and using the relevant sample databases clearly helped to obtain a high response rate and a sample representing a variety of marketing employers in each of the targeted sectors. Most of the respondents had worked in companies of between 101- 500 persons (69; 18%) or large companies with more than 500 employees (94; 24%). Almost one third of the respondents had between two and five years' experience in a marketing position (123; 32%) and one third had between five and ten years (124; 32%); and only 8% had had more than twenty years. The majority of these were males (225, 58%) and more than three quarters of them held university qualifications: 52% at degree or diploma level; and only 10 % were postgraduates with a Masters or PhD degree.

	Total	Count 390	%
Sector in marketing industry	Advertising /communications/ media	83	21
	Tele/direct marketing/sales	98	25
	Fast moving consumer goods/beverages (FMCG)	106	27
	Financial services/insurance/ banking	103	26
Size of company/business	1 - 10 persons	70	18
	11 - 50 persons	9	2
	51-100 persons	67	17
	101- 500 persons	69	18
	More than 500 persons	94	24
Gender:	Male	225	58
	Female	165	42
Years of marketing experience	2-5 years	123	32
	More than 5 -10 years	124	32
	More than 10 -15 years	73	19
	More than 15 - 20 years	41	10
	More than 20 years	30	8
Highest qualification:	Grade 12	51	13
	Degree/diploma	204	52
	Hons degree/ BTech	97	26
	Masters/MBA	26	7
	PHD	12	3

Table 1. *Profile of sample**Skills areas required from new marketing graduates in each sector*

Respondents in all the sectors were asked to rate how essential a wide variety of skills were for marketing graduates when entering the market on a scale from 5 = very important to 1 = not important at all. The results are presented in Table 4; and they will be discussed by firstly considering the overall findings, where the different sectors will be compared.

As noted in the literature, personal traits are at times difficult to differentiate from associated skills (Wellman, 2010). Nevertheless, all traits and “trait-like” attributes were grouped together as “personal traits”; and they were generally regarded as the most important category (M=4.75, Rank mean = 2536.74). In this category, all the traits seem to be rather critical.

Ability to work under pressure and integrity clearly stand out, and they are regarded as the most important traits, followed by personal drive and time management. Interpersonal skills were generally regarded as the least-important category (M=4.10; Rank mean =1570.22). Skills, such as the ability to motivate team members (M= 4.00), and leadership skills (M=4.12) were regarded as the least-important.

These skills are probably not expected by employers for entry-level jobs; but they would be required for managerial positions in marketing.

#### *Hypothesis 1: Personal traits*

In terms of the personal traits required from new marketing graduates seeking employment in the different marketing industry sectors, there were no significant differences between the groups. The alternative hypothesis ( $H_1$ ) was thus rejected, as there is support for the null hypothesis,  $H_{1(0)}$ . Further inspection revealed that personal traits are very important for employers in all the sectors included. A noteworthy aspect is that the ability to work under pressure and /work ethics were the most important traits for all the sectors.

#### *Hypothesis 2: Communication*

There is a significant difference in the level of importance of communication skills required from new marketing graduates across the marketing industry sectors ( $H(4) = 75.24, p < .05$ ). The second hypothesis ( $H_{2(0)}$ ) was thus rejected; as there is support for the alternative hypothesis ( $H_2$ ), which states that marketing industry sectors differ regarding the communication skills required from new marketing graduates when seeking employment.

Within the communication category, similar views were held by all the sectors about the importance of communication with clients and electronic/IT communication. However, the post hoc test revealed that there are significant differences in the views of the groups, as to how essential a number of communication skills are, with a rank mean in this category of 425.52 for the advertising and media sector; 413.10 for the sales sector; 366.33 for the Fast-moving consumer goods/beverages sector; and 346.33 for the Financial services/insurance/ banking sector.

A notable difference in the ranking order was evident in the importance attached to business writing skills across the various sectors. Within the communication category, business writing skills were deemed the least important for the sales sector. In this sector, entry-level employees seem to rely more on oral presentation skills to perform their job. Writing was rather regarded as essential in the advertising & media sector (1<sup>st</sup>); because of the nature of the industry, which is characterized by a constant demand for proposals to the clients.

#### *Hypothesis 3: Cognitive abilities*

It was also revealed that there was a significant difference between the marketing industry sectors regarding the cognitive abilities required from new marketing graduates seeking employment. ( $H(4) = 76.05, p < .05$ ). Therefore,  $H_3$  can be accepted. Further inspection of the sector means ranks suggests that the ability for analytical reasoning in the sectors, such as the Advertising & Media, FMCG and

Financial services, are significantly more important than the Sales sector. In contrast, their agreement regarding the ability for strategic thinking/insight was indicated as the least-important skill across all the different sectors.

	Total		Advertising & Media	Sales	FMCG	Financial services	
Skills dimensions	Mean	Std	Mean	Mean	Mean	Mean	
PERSONAL TRAITS	4.75	0.6	4.66	4.76	4.81	4.77	< 0,001
Integrity/work ethics	4.85	0.42	4.84	4.8	4.86	4.89	
Ability to work under pressure	4.85	0.68	4.88	4.83	4.86	4.81	
Personal drive / ability to work independently	4.65	0.6	4.48	4.77	4.73	4.61	
Time management	4.79	0.66	4.68	4.75	4.84	4.87	
Dedication	4.72	0.56	4.61	4.73	4.81	4.72	
Enthusiasm/passion	4.74	0.54	4.61	4.75	4.81	4.8	
Flexibility/adaptability	4.67	0.71	4.51	4.72	4.78	4.68	
COMMUNICATION SKILLS	4.32	0.76	4.62	4.51	4.00	4.13	< 0,001
Communication with customers/clients	4.44	0.71	4.68	4.8	4.2	4.06	
Interpersonal communication with co-workers	4.35	0.58	4.65	4.61	4.16	3.98	
Oral presentation skills	4.35	0.78	4.78	4.75	3.72	4.14	
Negotiation/persuasion skills	4.36	0.77	4.56	4.71	3.89	4.29	
Electronic/IT communication	4.28	0.82	4.38	4.22	4.21	4.3	
Business writing skills	4.13	0.94	4.69	3.98	3.80	4.03	
COGNITIVE ABILITIES	4.25	0.86	4.27	3.86	4.49	4.37	< 0,001
Problem-solving skills	4.39	0.75	4.26	4.19	4.71	4.41	
Ability for analytical reasoning	4.18	0.8	3.89	3.8	4.45	4.59	
Ability for strategic thinking/insight	4.11	0.83	4.16	3.32	4.62	4.34	
Creativity/innovativeness	4.30	0.83	4.77	4.13	4.18	4.12	
INTERPERSONAL SKILLS	4.10	0.95	4.02	4.32	4.19	3.87	< 0,001
Ability to motivate team members	4.00	0.97	3.97	4.38	3.98	3.67	
Ability to work in a multicultural team	4.18	1.05	4.12	4.42	4.04	4.14	
Leadership skills	4.12	0.81	3.96	4.16	4.55	3.8	

Table 2. *The marketing industry's perspective on the skills required from marketing graduates*

#### *Hypothesis 4: Interpersonal skills*

There is a significant difference in the level of importance of the skills required from new marketing graduates across the marketing industry sectors ( $H(4) = 128.65, p < .05$ ). The fourth hypothesis ( $H_{4(0)}$ ) was thus rejected; as there is support for the alternative hypothesis  $H_{4(1)}$  which states that marketing industry sectors differ regarding the interpersonal skills required from new marketing graduates seeking employment.

Post hoc tests revealed that there are significant differences in the views of the group. For example, leadership skills are less important in the advertising & media and financial services sectors, when compared with the sales and FMCG sectors. Furthermore, the sales sector regards the ability to motivate team members as essential; while most others do not.

There also is a significant difference in the level of importance of interpersonal skills between the different company sizes. In particular, the mean rank in companies with more than 500 employees (383.50) is higher than the mean rank for companies with 1-10 employees (345.91) and those with 11-50 employees (325.65); and the difference is significant ( $H(4) = 4.61, p < 0.05$ ).

## DISCUSSION

The results of this survey support many previous studies with respect to the importance of softer or transferable skills (Davis et al. 2002; Kelly and Gaedeke 1990, Walker et al. 2009). However, some discrepancies between the findings and other studies were also revealed. The relatively low rankings of interpersonal and cognitive skills are contradictory to the results of the European study by Andrews and Higson (2008). The explanation for the low rating is probably that these skills become more important when moving to higher levels of employment.

The relative high ranking of integrity or ethics contradicts the findings of Gray et al. (2007), but is aligned with the more recent study by Schlee and Harich (2010), in which personal ethics or ethical decision-making skills were the most-cited skill listed in marketing jobs on the largest employment website in the USA. Thus, marketing ethics is viewed as important, now that it has been linked to financial performance, and because of marketing's interface with many diverse stakeholders.

Previous studies revealed that employers require different skills for marketing positions at different levels (Shlee and Harich 2010) and for a specific context (Gray et al. 2007). The findings of this research revealed that even at the entry level, there are significant differences between the sectors in terms of the importance they attach to the respective skills areas.

Consumer groups and the social media have contributed to raising public awareness of ethically questionable corporate activities. Marketing is often blamed for corporate misbehaviour. Contemporary marketing students must, therefore, be equipped to deal with the ethical challenges and paradoxes faced by organisations. The teaching and learning of marketing ethics cannot be achieved by lecturers alone; but it must be combined with case studies, videos, group discussions and blogs – to allow students to actively contribute to, participate in, and reflect on.

It is also recommended that subject areas included in the curricula must be adopted for specialization in the marketing discipline. In addition, potential interventions to transfer the critical skills identified must be developed in consultation with industrial bodies incorporating, building and assessing

employability skills in the curriculum. These specialist offerings should be delivered by staff with personal experience of these sectors and/or research interests in these areas. It is essential that practitioners must not consider it the duty of academics to supply graduates who are employment-ready, but should rather help them to incorporate more opportunities for practical experience in the marketing curriculum.

## CONCLUSIONS AND LIMITATIONS

The focus of this study has been on the employability attributes required of new marketing graduates, and specifically from the perspective of employers in seven marketing sectors in South Africa. Research, therefore, could be extended to include other stakeholders within Higher education, such as students or alumni, as well as academics supplying the services, such as lecturers and tutors. This could help to overcome the gaps between practitioner requirements, academic teaching and student interests, in order to produce the relevant marketing programmes. It might be sensible to replicate the study in other African and developing countries and other institutions, in order to assess the generalisability of the results. Another worthwhile future research would be to explore alternative pedagogical approaches for instructing marketing undergraduates about ethics and work-integrated, or project-based learning options.

This study is one of the first to examine the employability attributes required from graduates across sectors in the marketing industry. Further value will be obtained if this paper is used as part of the re-engineering of specialist marketing programmes in each of these sectors.

In conclusion, the findings of this study make some important contributions to the body of knowledge on marketing education, and might help in the updating of marketing curricula, so that marketing graduates are better prepared for many of the jobs available in the emerging sectors within the marketing discipline.

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# POSITIVE PSYCHOLOGICAL CAPITAL ENHANCES THRIVING IN THE MULTICULTURAL WORK ENVIRONMENT OF MULTINATIONAL CORPORATIONS

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## ABSTRACT

The aim of the paper is to examine positive psychological capital (PsyCap) as well as individual factors in the relationship with thriving in the multicultural work environment of multinational corporations (MNCs). We conducted a quantitative study on the sample of 127 individuals from subsidiaries of various MNCs located in Poland and involved in intercultural interactions. The results of cross-sectional study show that employees who have a higher level of PsyCap as resource caravans experience more vitality. Moreover, employees who have a higher level of PsyCap experience more learning at work in MNCs. We also observed that the learning component of thriving was more vivid than vitality. In contrast, individual factors, i.e. job tenure, language proficiency or prior international experience, were insignificant. Our results demonstrate that PsyCap of individuals is a significant factor that triggers their thriving at work in multicultural environments of MNCs.

**Keywords:** *learning, multicultural workplace, multinational corporations, positive cross-cultural scholarship, positive psychological capital, thriving, vitality*

## INTRODUCTION

Globalization with its evident manifestations of multinational corporations (MNCs) worldwide and the global mobility of workforce have considerably contributed to the changes in the work landscape over the years. Accordingly, working in multicultural environments has become a daily reality for a growing number of people (Nolan 2012; Abdul Malek & Budhwar 2013). The main features of such demanding work environments are cultural and language diversity (Lauring & Selmer 2011), which pose unique challenges to employees since they face cultural barriers (Mäkelä et al. 2012), but may also utilize opportunities (Youssef & Luthans 2012a) that, among other outcomes, promote their thriving.

The studies on thriving in a work context are becoming a vital domain of inquiry. The phenomenon attracts attention of scholars since it produces many positive outcomes for organizations. Positive psychological capital (PsyCap) is another construct which has recently received growing interest in research. Nevertheless, there is still a need “to examine thriving in relation to (...) psychological capital” (Porath et al. 2012, p. 270) and to expand “the boundaries of PsyCap to other contexts” by conducting research in new organizational contexts and cultures (Youssef & Luthans 2012b, p. 22). Therefore, the aim of the paper is to examine both positive psychological capital and individual factors in the relationship with thriving in the multicultural work environment of MNCs. We consider the multicultural work setting of MNCs as new organizational contexts since, to the best of our knowledge, only a few studies so far have analyzed thriving and PsyCap in MNCs with regard to intercultural interactions of their staff.

Our paper begins with a literature review on PsyCap and thriving. We also portray major features of multicultural work environments. In the subsequent section we present the methodology and results. In discussion and conclusions we put forward contributions, limitations, practical implications and directions for future research.

## LITERATURE REVIEW

### *Psychological capital and its components*

Psychological capital (PsyCap) is defined as “an individual’s positive state of development that is “composed of four personal resources, i.e. self-efficacy, optimism, hope and resilience (Youssef & Luthans 2012, p. 18). Self-efficacy is defined “as having confidence (...) to take on and put in the necessary effort to succeed at challenging tasks” (Luthans et al. 2007, p. 3). Optimism exhibits an individual’s expectations of positive outcomes and positive events. Hope involves energy to attain desired goals and to choose alternative paths if needed by circumstances. Resilience reflects a person’s ability to sustain, bounce back and even beyond to attain success in the face of problems and adversity, being particularly helpful in a demanding or stressful environment (Luthans et al. 2007; Luthans et al. 2010). These personal resources constitute the so-called resource caravans, which means that they can aggregate in time, build upon one another and their interplay leads to the effect of synergy (Hobfoll 2001). For example, when an effective job performance enhances an individual’s feeling of self-efficacy, it will also build their optimism concerning their ability to work effectively in the future.

PsyCap is a dynamic and developable state, which can be modeled and enhanced since organizations may help their employees to improve their level of PsyCap by training interventions, organizational

activities and resources (Luthans et al. 2007; Peterson et al. 2011; Walumbwa et al. 2011; Rego et al. 2012). Accordingly, PsyCap has a rewarding value since resources invested in its development will benefit in the future (Hobfoll 2011). Moreover, the return on investment in PsyCap development is more sustainable in the work settings (Youssef & Luthans 2012b).

#### *The concept of thriving*

Thriving is referred to individual psychological experience of a sense of vitality and learning in the work context. Vitality, i.e. positive energy and enthusiasm, is a pleasurable psychological experience and it represents the affective dimension of thriving. Vitality reflects aliveness, energy and high arousal job-related positive emotions. Learning, which comprises people growth through gaining new and applicable knowledge and skills, is a cognitive component of thriving (Porath et al. 2012; Spreitzer & Sutcliffe 2007). It is a socially embedded process since employees learn at work and while interacting with other people, which helps them “to determine what needs improving and how to do it” (Carmeli et al. 2009, p. 81). Additionally, learning enables actualization of an individual’s potential both as an employee and as a human being. It also promotes individuals’ growth since people enact an agentic role in interactions with others (Spreitzer et al. 2005; Spreitzer & Sutcliffe 2007).

#### *Psychological capital and thriving in prior research*

A number of studies so far has demonstrated that PsyCap influences desired outcomes in the workplace. First and foremost, PsyCap affects individual functioning in an organization, which is represented by psychological well-being in the work context as well as impacts on organizational performance (Walumbwa et al. 2011). It also triggers positive emotions of employees and has implications for combating their stress (Avey et al. 2009; Avey et al. 2010). Moreover, recent research indicates that PsyCap may foster a positive organizational change (Avey et al. 2008) and be a mediator in the relationship between a supportive organizational climate and an employee’s performance (Luthans et al. 2008). As previous studies have also shown, PsyCap is significantly and positively associated with desired employee attitudes (e.g. commitment), behaviors (e.g. citizenship behaviors) and performance (Avey et al. 2010; Paek et al. 2015). Additionally, other positive outcomes related to PsyCap include task mastery, improved leadership, lower absenteeism and intention to leave and promoted creativity and innovation (Avey et al. 2010; Rego et al. 2012).

As far as prior research on thriving is concerned, we found out that thriving has been scrutinized in a work setting. Those studies demonstrate that thriving relates more to a positive affect than a negative one (Porath et al. 2012) and can be strengthened by personal and organizational resources. With regard to personal resources, fresh empirical evidence backs up that thriving is related to PsyCap (Paterson et al. 2014; Boyd 2015). Other research shows that thriving enhances both personal potential

and organizational growth (Baruch et al. 2014; Paterson et al. 2014; Wallace et al. 2013). In another study, Rozkwitalska and Basinska (2015a) assign thriving to the central position in their theoretical model of intercultural interactions and job satisfaction. Similarly, Baruch et al. (2014) and Wallace et al. (2013) consider thriving as a mediator between the antecedents (the regulatory focus, career commitment) and the outcomes (innovation, career and life satisfaction). Considering the demographics of the respondents, such as job tenure, the results are inconsistent. For example, Niessen et al. (2012) found out that job tenure is negatively correlated with vitality, yet it does not relate to learning, while Porath et al. (2012) did not observe a correlation between job tenure and thriving.

With regard to thriving in a multicultural work environment, still more research is needed since, to the best of our knowledge, only a few studies, to date, have explored it in such a context. For example, Rozkwitalska and Basinska (2015b) in their qualitative research demonstrate that PsyCap may enhance both components of thriving in a multicultural work setting of MNCs. They also posit that self-efficacy and resilience can be instrumental in learning, whereas vitality relies more on hope and optimism (Basinska & Rozkwitalska 2016).

#### *Multicultural work environments*

MNCs are nowadays perceived as one of the most important institutions in the world economy (Erez & Shokef 2008). These organizations are involved in multinational business, which compels them to manage interdependencies among multicultural staff in their foreign subsidiaries (Hennart 2010). Consequently, their work environment is distinct and differs from any other organization, constructing its own rules of conduct (Erez & Shokef 2008).

Owing to the fact that MNCs operate in many countries, where they hire various nationalities representing different and sometimes intertwining cultures, they can be seen as organizations with multicultural work environments (Darawong & Igel 2012; Rozkwitalska & Basinska 2015a), which confront the interactions among their employees with cultural differences and language diversity (Lauring & Klitmøller 2015). Due to unique characteristics of multicultural workplaces, managers and employees in MNCs are expected to adjust (Darawong & Igel 2012) and be able to communicate in the corporate functional language (Lauring & Klitmøller 2015). Since MNCs' staff differs in the level of functional language fluency, "language barriers are a widespread and profound feature affecting vital processes in the MNC" and impeding intercultural interactions (Lauring & Klitmøller 2015, p. 2). Therefore, language proficiency appears to be a matter of importance in MNCs.

Concerning prior international experience, the extant literature does not offer a consistent argument whether it facilitates adjustment to multicultural environments, at least as far as expatriates are

considered (Takeuchi & Chen 2013). Nevertheless, it is perceived as a crucial factor that builds cross-cultural competence of individuals (Caligiuri & Tarique 2012) and, to some extent, MNCs may look for employees with prior international experience.

## METHODOLOGY AND RESULTS

### *Aim and hypotheses*

The aim of this study was to examine the relationship between two groups of factors and thriving (see Figure 1). The first group consisted of individual factors, i.e. demographics such as job tenure, and factors which can support efficient functioning of employees in MNCs' environments, i.e. international experience and functional language proficiency (Takeuchi & Chen 2013; Caligiuri & Tarique 2012). The second group included a personal resource, namely PsyCap. In accordance with the prior research (Hobfoll 2001; Luthans et al. 2007), we consider PsyCap as the resource caravans, which means that self-efficacy, hope, optimism and resilience are combined in PsyCap index. Despite the inconclusive results concerning demographics in prior research (Niessen et al. 2012; Porath et al. 2012), we posit that individual factors can be important for thriving (Porath et al. 2012; Paterson et al. 2014; Boyd 2015) in multicultural environments of MNCs, yet, in accordance with previous studies (Rozkwitalska & Basinska 2015b; Basinska & Rozkwitalska 2016), we assume that PsyCap plays a more vital role in enhancing thriving.

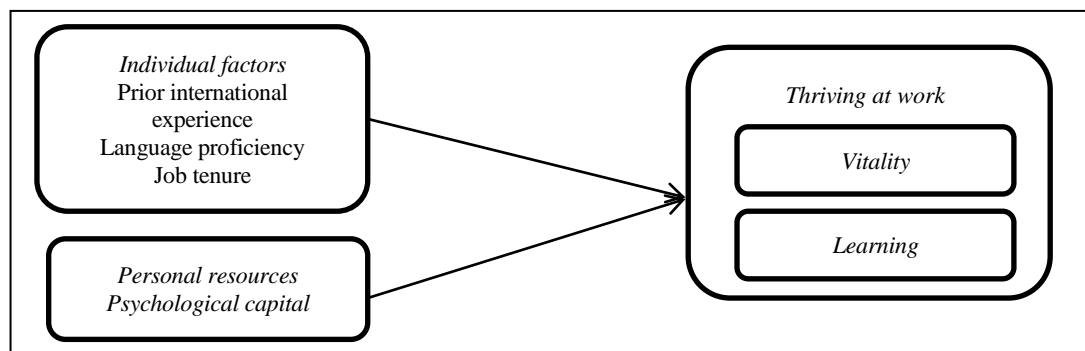


Figure 1. *The model of individual factors, psychological capital and thriving in MNC's work environment.*

Thus, we put forward the following hypotheses:

**Hypothesis 1:** In multicultural work settings, individual factors and PsyCap are related to vitality. However, PsyCap has a stronger relationship with vitality than international experience, functional language proficiency and job tenure.

**Hypothesis 2:** In multicultural work settings, individual factors and PsyCap are related to learning. However, PsyCap has a stronger relationship with learning than international experience, functional language proficiency and job tenure.

### *Participants*

We conducted a cross-sectional study between March and May 2015. Our sample consisted of 171 individuals (purposive and snow-ball techniques were applied) who are employed in Polish subsidiaries of MNCs and work as managers and specialists. Our main criterion to include a participant to the study was the fact that s/he was involved in intercultural interactions at work. With regard to this criterion, fully completed questionnaires, done voluntarily and anonymously, we received from 127 participants aged 35 on average ( $SD = 8.6$ ; range: 21–60) and with an average tenure of 6.2 years ( $SD = 4.8$ ; range: 0.5 – 20 years). As far as the other demographics are concerned, we have 62 women (49%) in the sample and 56 respondents (43%) holding managerial positions.

### *Instruments*

**Individual factors:** We measured the prior international experience of the respondents as an index composed of a set of different experiences, i.e. work for a MNC in the past, work abroad, life abroad, studies abroad, overseas private and business trips as well as having a close family member of other nationality. The respondents evaluated their experiences on the bimodal scale (*no* = 0, *yes* = 1). To calculate each participant's index, we added all the 'yes' answers. Thus, the index could range from 0 (a lack of international experience) to 7 (high international experience). We assessed proficiency in functional language using the question: "Overall, I am fluent in the foreign language (functional language of my corporation)", and a six-point scale (from 1 - *strongly disagree* to 6 - *strongly agree*). The higher the scores, the higher level of proficiency was indicated.

**Personal resources:** We measured psychological capital using the shortened version of PsyCap (Luthans et al. 2014). This 12-item questionnaire assesses the four psychological resources such as efficacy (3 items), resilience (3 items), hope (4 items) and optimism (2 items), and uses the six-point Likert scale (from 1- *strongly disagree* to 6 - *strongly agree*). To calculate the PsyCap index, we summarized the scores and divided them by the number of the items. The higher the scores, the higher level of psychological capital was indicated.

**Thriving at work as an outcome:** We separately evaluated the two components of thriving. Vigor, an indicator of vitality, was measured with a 3-item subscale of Utrecht Work Engagement Scale (Schaufeli et al. 2006). For example, one of the statements was: "At my work, I feel that I am bursting with energy". Each item was rated by a participant by means of a seven-point scale, ranging from 0 (*never*) to 6 (*always/every day*). The average of the sum of the scores was divided by the number of the

items, which indicated the level of vitality (the higher the scores, the higher the level of vitality). We assessed learning by using a 5-item scale (Vandewalle 1997); as a result, the higher the scores, the higher the level of learning was indicated. For example, one of the three statements was: “At work, I take challenging jobs in order to learn new things”. The respondents rated each item using a six-point scale, ranging from 1 (*strongly disagree*) to 6 (*strongly agree*). In the case of each participant, the average of the sum of the scores was then divided by the number of the items, which indicated his/her level of learning. The higher the scores, the higher the level of learning was presented.

#### *Data analysis*

We analysed the data by using Statistica 10.0. In order to assess the relationship between individual factors, PsyCap and thriving, we used the Pearson product-moment correlation coefficient. We conducted regression analyses to estimate the models of the relationship between individual factors, PsyCap and thriving. These regression analyses were performed separately for two outcome variables: vitality and learning. The regression models included individual factors (language proficiency and prior international experience, job tenure) and PsyCap estimated for both components of thriving. Some simple rules of thumb are  $N > 104 + m$ , where  $m$  is the number of independent variables for testing the individual predictors (Tabachnick & Fidell 2013). Taking the above into account, our group of respondents is appropriate since 110 cases were needed for testing the proposed model of regression. In order to assess the effect size of these relationships, we calculated Cohen's  $f^2$ . The rule of thumb indicates that Cohen's  $f^2$  higher than .35 is viewed as a large, .15 as a moderate, and .02 as a small effect size (Cohen 1998).

#### *Results*

We present the descriptive statistics of the analyzed variables and the correlational coefficients among them in Table 1.

	M	SD	[1]	[2]	[3]	[4]	[5]	[6]
[1] Language proficiency	4.94	1.00	-					
[2] International experience	0.58	0.21	0.35***	.75a				
[3] Job Tenure	6.15	4.81	-0.14	-0.00	-			
[4] Psychological capital	4.63	0.60	0.34***	0.16	0.29***	.87		
[5] Vigor	3.75	1.20	0.19*	0.07	0.23**	0.58***	.87	
[6] Learning	4.73	0.80	0.28**	0.20*	0.12	0.55***	0.39***	.89

Note. \*  $p < .05$ ; \*\*  $p < .01$ ; \*\*\*  $p < .001$ . On the diagonal are Cronbach's alpha coefficients. <sup>a</sup>  $r$  – tetrachoric coefficient. M = mean; SD = standard deviation

Table 1. *The descriptive statistics and the Pearson product-moment correlation coefficients between individual factors, psychological capital and thriving*

The analysis demonstrates that the participants working in MNCs experienced thriving at work, yet the learning component of thriving was higher than vitality. Both components of thriving were related to the individual factors. Vitality was weakly related to language proficiency and job tenure, while learning was also weakly related to language proficiency and international experience. Additionally, vitality and learning moderately correlated with PsyCap. As far as PsyCap is concerned, it was associated with language proficiency and job tenure in a weak and moderate degree respectively. We also found out that, which is not surprising, higher prior international experience was related to language proficiency.

Moreover, we estimated the role of individual factors and PsyCap in thriving. The details are presented in Table 2 and Table 3.

First, we performed the analysis of regression for vitality.

Model for vitality	B	SE	t	Adjusted R <sup>2</sup>	F
				.32	15.62***
Intercept	-1.50	0.75	2.41*		
Prior international experience	0.02	0.45	-0.22		
Language proficiency	0.02	0.10	0.17		
Job tenure	0.02	0.02	0.87		
Psychological capital	1.10	0.17	6.75***		

Note: \*  $p < .05$ ; \*\*  $p < .01$ ; \*\*\*  $p < .001$ .  $B$  = unstandardized regression weight;  $SE$  = standard error of unstandardized regression weight;  $t$  = Student  $t$ -test; adjusted  $R^2$  = the coefficient of determination;  $F$  =  $F$ -test.

Table 2. *Vitality regressed on individual factors and psychological capital*

The results show that the individual factors and PsyCap explained 32% of the variance in vitality. We found out that PsyCap was moderately related to vitality ( $\beta = .56$   $p < .001$ ), while the relationship between the individual factors and vitality was insignificant. The effect size was large (Cohen's  $f^2 = .52$ ). Thus hypothesis 1 was partly supported in our data. The analysis demonstrated that vitality was related to PsyCap, which means that employees who have higher level of PsyCap as resource caravans experience more vitality at work in MNCs.

Second, we conducted the analysis of regression for learning (Table 3).



Model for learning	B	SE	t	Adjusted R2	F
				.30	14.32***
Intercept	1.511	0.49	2.29**		
Prior international experience	0.36	0.07	0.79		
Language proficiency	0.06	0.07	0.79		
Job tenure	-0.01	0.01	-0.30		
Psychological capital	0.68	0.11	6.04***		

Note: \*  $p < .05$ ; \*\*  $p < .01$ ; \*\*\*  $p < .001$ .  $B$  = unstandardized regression weight;  $SE$  = standard error of unstandardized regression weight;  $t$  = Student  $t$ -test; adjusted  $R^2$  = the coefficient of determination;  $F$  =  $F$ -test.

Table 3. *Learning regressed on individual factors and psychological capital*

The regression analysis indicates that the individual factors and PsyCap explained 30% of the variance in learning. The relationship between PsyCap and learning was significant ( $\beta = .52$   $p < .001$ ), while the relationship between the individual factors and learning was insignificant. The effect size for this model was large (Cohen's  $f^2 = .43$ ). Taking the above results into account, hypothesis 2 was partly supported. Since learning correlated with PsyCap, we posit that employees who have a higher level of PsyCap experience more learning at work in MNCs.

## DISCUSSION AND CONCLUSIONS

The aim of this paper was to examine the relationship between positive psychological capital and thriving in multicultural environments of MNCs. Additionally, we included individual factors in our analysis, predicting that their role in explaining thriving in multicultural environments of MNCs would be weaker if compared to PsyCap. Our hypotheses were partly confirmed. The results have revealed that higher proficiency of language and longer job tenure correlated with vitality, yet their roles were insignificant when PsyCap was taken into account. The PsyCap of the employees working in the MNCs was related to their stronger vitality (a large effect size). Furthermore, higher language proficiency and international experience correlated with learning, however their roles were insignificant when PsyCap was included. The PsyCap of the employees working in the MNCs was related to their sense of learning (large effect size).

Our results demonstrate that PsyCap of individuals is a significant factor that triggers their thriving at work. We also notice that environments of MNCs can bring new opportunities to foster the learning component of personnel's thriving. Our data show that the learning component of thriving was more vivid than vitality. It can suggest that MNCs' environments are instrumental in thriving, whereas the very thriving is more stimulated by PsyCap than one's language proficiency, prior international experience or job tenure. The results of our study are consisted with the previous research, which note

that thriving is more associated with PsyCap than individual factors (Porath et al. 2012; Paterson et al. 2014; Boyd 2015). Moreover, our research supports the prior qualitative study, which demonstrated that learning is more salient than vitality in the multicultural work setting of MNCs (Rozkwitalska & Basinska 2015b). Other researchers have also found out that working in MNCs is a natural source of learning (Puck et al. 2008) and the novelty and diversity experienced in such an environment create an opportunity for learning (Stahl et al. 2010).

Our paper contributes to the intercultural management literature and positive cross-cultural research with regard to the relationship between PsyCap and thriving of individuals working in multicultural environments of MNCs. It adds to the knowledge on psychological capital in the context of MNCs.

With regard to practical implications, we posit that since PsyCap is a personal resource of employees, which can be supported by organizational practices, MNCs may improve an individual's PsyCap by providing more organizational resources, and consequently enhance thriving of their personnel. Our study also suggests that managers in MNCs should look for employees with a significant capacity of PsyCap to enhance their thriving.

The limitations of our study are as follows: the sample size was small yet acceptable, its composition included only Poles (on the other hand, it responds to the calls of Youssef and Luthans (2012b) to expand the boundaries of PsyCap to other cultures than the ones of the U.S.), employees of various MNCs (the industry context could not be captured in our data), the non-probabilistic sampling techniques limit the generalizations of our results, the correlations in our analyses did not allow for scrutinizing the cause-and-effect relationships. Future research should respond to these limitations. We also recommend comparing whether the relationship between PsyCap and thriving is stronger in multicultural environments of MNCs than in other organizational contexts. Finally, future research can focus on organizational interventions that stimulate thriving.

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## HOW DOES ENTREPRENEURIAL ORIENTATION INFLUENCES EXPLOITATION OF KNOWLEDGE?

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### ABSTRACT

The processes for exploitation of knowledge became an essential element for firms to adapt to changes in the competitive environment. The exploitation of this knowledge should be undertaken with proactivity, innovation and risk-taking. Building on well established theories, our research explores the influence of entrepreneurial orientation in exploitation of knowledge of Portuguese small and medium enterprises (SMEs) of footwear associated to the Portuguese Footwear, Components and Leather Goods Association (APICCAPS). Based on survey data from 42 firms, our empirical results indicate that globally entrepreneurial orientation have a positive and significant influence on exploitation of knowledge, and that the entrepreneurial orientation's dimensions that most contribute to this end are innovation and risk-taking.

**Keywords:** *entrepreneurial orientation, absorptive capacities, exploitation of knowledge, SMEs, Portuguese footwear industry.*

### INTRODUCTION

In a dynamic and turbulent environment, knowledge represents a critical resource to create value and to develop and sustain competitive advantages (Teece, Pisano and Shuen, 1997). However, fast changing environments, technologies and competitiveness intensify the challenges firms face in attaining self-sufficiency in knowledge creation (Camisón and Forés, 2010).

Entrepreneurial orientation is a strategic orientation of a company that encompasses specific entrepreneurs aspects such as style, methods and decision-making practices (Frank, Kessler and Fink, 2010), constituting a capacity that can attract resources to exploit opportunities (Alvarez and Busenitz, 2001). On the other hand, literature in the field of strategic management has focused on dynamic capabilities (for a review see Barreto, 2010). The firms' success depends not only on its' resources and capabilities, but also the ability to adapt itself to the industry contingencies and the markets in which

operates. Firms may possess resources but must display dynamic capabilities otherwise shareholder value will be destroyed (Bowman and Ambrosini, 2003). It is in this context that emerges the Dynamic Capabilities View (DCV) (Amit and Schoemaker, 1993; Teece et al., 1997) to support the adjustment to environmental change.

DCV is not divergent but rather an important stream of Resource-Based View (RBV) to gain competitive advantage in increasingly demanding environments (Ambrosini and Bowman, 2009; Barreto, 2010; Eisenhardt and Martin, 2000; Wang and Ahmed, 2007). Monteiro, Soares and Rua (in press) defend that in versatile markets the firms' capabilities should be dynamic and managers must display the ability to ensure consistency between the business environment and strategy in order to continuously renew skills.

Dynamic capabilities as a mind-set constantly integrate, reconfigure, renew and recreate its core capabilities in response to the ever changing environment in order to achieve and sustain competitive advantage (Wang and Ahmed, 2007). Moreover, these capabilities sense and shape opportunities and threats, seize opportunities, and maintain competitiveness by enhancing, combining, protecting, and reconfiguring the businesses' intangible and tangible resources (Teece, 2007).

Absorptive capacity (ACAP) has become one of the most significant constructs in the last twenty years. Absorptive capacity is the dynamic capability that allows firms to gain and sustain a competitive advantage through the management of the external knowledge (Camisón and Forés, 2010).

Building on well established theories, our research aims at exploring the influence of entrepreneurial orientation in exploitation of knowledge of Portuguese SMEs exporting footwear, by analyzing the contributions of this capability in such construct.

## **THEORETICAL FRAMEWORK**

### *Entrepreneurial orientation*

Entrepreneurial orientation emerged from entrepreneurship definition which suggests that a company's entrepreneurial degree can be measured by how it take risks, innovate and act proactively (Miller, 1983). Entrepreneurship is connected to new business and entrepreneurial orientation relates to the process of undertaking, namely, methods, practices and decision-making styles used to act entrepreneurially. Thus, the focus is not on the person but in the process of undertake (Wiklund, 2006).

Companies can be regarded as entrepreneurial entities and entrepreneurial behaviour can be part of its activities (Covin and Slevin, 1991). Entrepreneurial orientation emerges from a deliberate strategic

choice, where new business opportunities can be successfully undertaken (Lumpkin and Dess, 1996). Thus, there is an entrepreneurial attitude mediating the vision and operations of an organization (Covin and Miles, 1999).

Several empirical studies indicate a positive correlation between entrepreneurial orientation and organizational growth (e.g. Miller, 1983; Covin and Slevin, 1991; Lumpkin and Dess, 1996; Wiklund, 2006; Davis, Bell, Payne and Kreiser, 2010; Frank, Kessler and Fink, 2010). Similarly, other studies also confirm that entrepreneurial orientation has a positive correlation with export's performance, enhancing business growth (e.g. Zahra and Garvis, 2000; Okpara, 2009).

The underlying theory of entrepreneurial orientation scale is based on the assumption that the entrepreneurial companies are different from the remaining (Kreiser, Marino and Weaver, 2002), since such are likely to take more risks, act more proactive in seeking new businesses and opportunities (Khandwalla, 1977; Mintzberg, 1973).

Entrepreneurial orientation has been characterized by certain constructs that represent organization's behaviour. Starting from the Miller (1983) definition, three dimensions were identified: innovation, proactiveness and risk-taking, which collectively increase companies' capacity to recognize and exploit market opportunities well ahead of competitors (Zahra and Garvis, 2000). However, Lumpkin and Dess (1996) propose two more dimensions to characterize and distinguish entrepreneurial process: competitive aggressiveness and autonomy. In this study only innovation, risk-taking and proactiveness will be considered, as they are the most consensual and used dimensions to measure entrepreneurial orientation (e.g. Covin and Miller, 2014; Covin and Slevin, 1989, 1991; Davis et al, 2010; Frank et al, 2010; Kreiser et al, 2002; Lisboa, Skarmeas and Lages, 2011; Miller, 1983; Okpara, 2009; Wiklund and Shepherd, 2005; Zahra and Covin, 1995; Zahra and Garvis, 2000).

#### *Absorptive capacity of exploitation of knowledge*

In order to survive certain pressures, companies need to recognize, assimilate and apply new external knowledge for commercial purposes (Jansen, Van Den Bosch and Volberda, 2005). This ability, known as absorptive capacity (Cohen and Levinthal, 1990), emerges as an underlying theme in the organizational strategy research (Jansen et al., 2005). Cohen and Levinthal (1990) conceptualize ACAP as the firms' ability to identify, assimilate, and exploit knowledge acquired from external sources. As such, ACAP facilitates knowledge accumulation and its subsequent use. Thus, this ability access and use new external knowledge, regarded as an intangible asset, is critical to success and depends mainly on prior knowledge level, since it is this knowledge that will facilitate the identification and processing of new one. This prior knowledge not only includes the basic capabilities, such as shared language, but also recent technological and scientific data or learning skills. By analyzing this definition is found that absorptive capacity of knowledge only three dimensions: the ability to acquire

external knowledge; the ability to assimilate it inside; and the ability to apply it (Cohen and Levinthal, 1990). Zahra and George (2002) broaden the concept of ACAP from the original three dimensions (identify, assimilate, and exploit) to four dimensions (acquire, assimilate, transform, and exploit).

ACAP is a good example of a dynamic capability since it is embedded in a firm's routines. It combines the firm's resources and capabilities in such a way that together they influence "the firm's ability to create and deploy the knowledge necessary to build other organizational capabilities" (Zahra and George, 2002, p. 188).

According to Zahra and George (2002) ACAP is divided in Potential Absorptive Capacity (PACAP), including knowledge acquisition and assimilation, and Realized Absorptive Capacity (RACAP) that focuses on transformation and exploitation of that knowledge. PACAP reflects the companies' ability to acquire and assimilate knowledge that is vital for their activities. Knowledge acquisition the identification and acquisition and assimilation is related to routines and processes that permit to analyze, process, interpret and understand the external information. RACAP includes knowledge transformation and exploitation, where transformation is the ability to develop and perfect routines that facilitate the integration of newly acquired knowledge in existing one, exploitation are routines which enhance existing skills or create new ones by incorporating acquired and transformed knowledge internally.

Jansen et al. (2005) defend that, although company's exposure to new knowledge, is not sufficient condition to successfully incorporate it, as it needs to develop organizational mechanisms which enable to synthesize and apply newly acquired knowledge in order to cope and enhance each ACAP dimension. Thus, there are coordination mechanisms that increase the exchange of knowledge between sectors and hierarchies, like multitasking teams, participation in decision-making and job rotation. These mechanisms bring together different sources of expertise and increase lateral interaction between functional areas. The system mechanisms are behaviour programs that reduce established deviations, such as routines and formalization. Socialization mechanisms create a broad and tacit understanding of appropriate rules of action, contributing to a common code of communication.

Studying absorptive capacity offers fascinating insights for the strategic management literature and provide new information regarding how firms may develop important sources of sustainable competitive advantages (Jansen et al., 2005). In this paper the focus is on the exploitation of knowledge.



## HYPOTHESES

Dynamic capabilities refer to “the firm’s ability to integrate, build, and reconfigure internal and external competences to address rapidly changing environments” (Teece et al., 1997, p. 516).

Barreto (2010, p. 271) argued that a “dynamic capability is the firm’s potential to systematically solve problems, formed by its propensity to sense opportunities and threats, to make timely and market-oriented decisions, and to change its resource base”. On the other hand, dynamic capabilities enable companies to create, develop and protect resources allowing them to attain superior performance in the long run, are constructed (not acquired in the market), dependent on experience and are embedded in the company’s organizational processes (Ambrosini and Bowman, 2009), not directly affecting the outputs, but contributing through the impact they have on operational capabilities (Teece et al., 1997). These capabilities refer to a firm’s capacity to deploy resources, usually in combination, using both explicit and tacit elements (such as know-how and leadership). For this reason, capabilities are often firm-specific and are developed over time through complex interactions between the firm’s resources (Amit and Schoemaker, 1993). Maintaining these capabilities requires a management that is able to recognize adversity and trends configure and reconfigure resources, adapt processes and organizational structures in order to create and seize opportunities, while remaining aligned with customer preferences. Indeed, dynamic capabilities allow businesses to achieve superior long-term performance (Teece, 2007).

Firms, therefore, need to continually analyze and interpret changing market trends and quickly recognize new opportunities in order to create competitive products (Tzokas, Kim, Akbar and Al-Dajani, 2015). The ACAP construct encompasses an outward-looking perspective that deals with the identification and generation of useful external knowledge and information and an inward-looking component that is related with how this knowledge is analyzed, combined with existing knowledge, and implemented in new products, new technological approaches, or new organizational capabilities (Cohen and Levinthal, 1990).

Ultimately, the following hypotheses is tested:

*H1: Entrepreneurial orientation influences positively exploiting of knowledge.*

## METHODOLOGY

### *Setting and Data Collection*

To test the hypothesis a sample of Portuguese footwear companies was used, that meet the following criteria: companies in which at least 50% of income comes from exports of goods, or companies in which at least 10% of income comes from exports of goods and the export value is higher than 150.000 Euros (INE, 2011).

Data collection was implemented through electronic questionnaire, associating a link to the survey that was online. To reduce misunderstandings, the questionnaire was validated by the research department of Portuguese Footwear, Components and Leather Goods Association (APICCAPS).

We were provided with a database of 231 companies (company name, telephone contact, email, economic activity classification, export markets, export intensity and capital origin). Only 167 companies fulfilled the parameters, and were contacted by email by APICCAPS to respond to the questionnaire. Subsequently, all companies were contacted by the authors via e-mail and telephone, to ensure a higher rate of valid responses. The questionnaires began on April 22, 2014 and ended on July 22, 2014. After finishing the data collection period, 42 valid questionnaires were received, representing a 25% response rate (Table 1). This response rate is considered quite satisfactory, given that the average of top management survey response rates are in the range of 15%-20% (Menon, Bharadwaj, Adidam and Edison, 1999).

Universe of analysis - Portuguese SMEs of footwear
Sample - a non-probabilistic and convenient
Population – 367 firms
Sample – 167 firms
Response rate – 25%
Valid responses - 42
Time period – April 22 to July 22 of 2014

Table 1. *Data summary*

In this investigation we chose a non-probabilistic and convenient sample since its respondents were chosen for being members of APICCAPS.

### *Measures*

For assessment of entrepreneurial orientation was used Covin and Slevin's scale (1989), that consists in nine items: three for innovation, three for proactiveness and three for risk-taking, having been used a five point Likert scale, where 1 means "strongly disagree" and 5 "strongly agree".

To measure exploitation of knowledge, and based in Jansen et al. (2005), it was operationalized the company's ability to explore new external knowledge into their current operations, through six questions (e.g. Jansen et al., 2005; Zahra and George, 2002). A five point Likert scale was used to measure each item, where 1 means "strongly disagree" and 5 "strongly agree".

## **RESULTS**

### *Reliability analysis*

In order to verify the reliability of overall variables we estimated the stability and internal consistency through Cronbach's alpha ( $\alpha$ ). Generally, an instrument or test is classified with appropriate reliability when  $\alpha$  is higher or equal to 0.70 (Nunnally, 1978). However, in some research scenarios in social

sciences an  $\alpha$  of 0.60 is considered acceptable, as long as the results are interpreted with caution and the context is taken into account (DeVellis, 2012). For the present study we used the scale proposed by Pestana and Gageiro (2008).

The result of 0.855 achieved for all of variables is considered very good, confirming the sample's internal consistency. It was also conducted an internal consistency test for all variables in each construct to assess their reliability (Table 2).

Construct	Cronbach's $\alpha$	Items Nr.	N	Analysis
Entrepreneurial orientation	.739	9	42	Good
Exploitation of knowledge	.897	6	42	Very good

Table 2. *Internal consistency test by construct (Cronbach's Alpha)*

We found that entrepreneurial orientation has good consistency and that exploitation of knowledge presents very good reliability.

#### *Exploratory factor analysis*

We performed a factor analysis, with Varimax rotation, of entrepreneurial orientation construct items that comprise the scale, with the purpose of finding a solution that was more easily interpretable. Three factors were extracted and there was no need to delete items. Thus, we obtained a scale composed of 9 items, distributed over three factors that explain 77.09% of total variance, with 35.52% of variance explained by the first factor, *Proactiveness*, 27.48% for the second factor, *Innovation*, and 14.09% by the third factor, *Risk-taking*. Analyzing the internal consistency of the three factors, we found that Cronbach's Alphas have a good internal consistency. KMO test indicates that there is a reasonable correlation between the variables (0.695). Bartlett's sphericity test registered a value of  $\chi^2(36, N=42)=171.176$ ,  $p<0.05$ , therefore is confirmed that  $\chi^2>\chi_{0.95}^2$ , so the null hypothesis is rejected, i.e. the variables are correlated.

In the factor analysis, with Varimax rotation, of exploitation of knowledge we got a scale with 6 items, distributed by 1 factor, that explained 69.17% of total variance, whose saturations range between 0.804 and 0.578. The internal consistency of the factor is  $\alpha=0.897$ , indicating this value that these dimension presented a very good internal consistency. KMO test confirm a good correlation between the variables (0.831). Bartlett's sphericity test registered a value of  $\chi^2(10, N=42)=114.439$ ,  $p<0.05$ , therefore is confirmed that  $\chi^2>\chi_{0.95}^2$ , so the null hypothesis is rejected and the variables are correlated.

#### *Multiple regression analysis*

Multiple regression analysis is a statistical technique that is used to analyze the relationship between a single dependent (criterion) variable and several independent (predictor) variables. The objective of multiple regression analysis is to use the independent variables whose values are known to predict the single dependent value selected by the researcher. Each independent variable is weighted by the regression analysis procedure to ensure maximal prediction from the set of independent variables.

The most commonly used measure of predictive accuracy for the regression model is the coefficient of determination ( $R^2$ ). This coefficient measures the proportion of total variability that can be explained by regression ( $0 \leq R \leq 1$ ), measuring the effect of independent variables on the dependent variable. When  $R^2=0$  the model clearly does not adjust to data and when  $R^2=1$  the adjustment is perfect. In social sciences when  $R^2 > 0.500$  the adjustment is considered acceptable (Marôco, 2011). In the table 3 we present the results of the multiple regression analysis of our model.

Model	R	$R^2$	Adj. $R^2$	Standard Error	F	Sig.
1	.556 <sup>a</sup>	.309	.254	.86350080	5.662	.003*

a. Predictors: (Constante), Entrepreneurial orientation.

b. Dependent variable: Knowledge exploitation.

\*  $p < 0.05$ .

Tabela 3. *Summary and ANOVA of multiple regression analysis<sup>b</sup>*

The previous table presents for model 1 a value of  $F=5.662$ , with  $q\text{-value} < 0.05$  (Sig.), so  $H_0$  is rejected in favour of  $H_1$ . Thus, this hypotheses is supported.

A mere comparison of the regression coefficients is not valid to evaluate the importance of each independent variable models, since these variables have different magnitudes. Thus, it is essential to use standard variables, known as Beta ( $\beta$ ) coefficients, in the models adjustment so that the independent variables can be compared.

Variables	Beta	Sig.
ENTREPRENEURIAL ORIENTATION		
Proactiveness	.076	n.s.
Innovation	.445	.002*
Risk-taking	.325	.021*

\*  $p < 0.05$ .

n.s. – non significant.

a. Dependent variable: Knowledge exploitation.

Table 4. *Standardized beta coefficient*<sup>a</sup>

Beta coefficient allows a direct comparison between coefficients as to their relative explanatory power of the dependent variable. Table 4 shows that the variables that have higher contribution to knowledge exploitation are *Innovation* ( $\beta=0.445$ ) and *Risk-taking* ( $\beta=0.325$ ).

## DISCUSSION AND CONCLUSION

The main purpose of this study is to analyze the influence of entrepreneurial orientation on knowledge exploitation. We conducted an empirical research based on a sample of 42 companies, which were applied a questionnaire in order to exploit data to test hypotheses, using proceedings and statistical techniques. It is important to note that companies evaluated entrepreneurial orientation and exploitation of knowledge relative to their major competitors in the export market(s), so the results should be interpreted based on these two aspects.

The Portuguese footwear industry faces considerable challenges, not only concerning the international markets crisis, but also regarding consumption patterns. The reduction of shoe design lifecycles has consequences on the offer. On one hand, the products have to be adapted to different segments specific needs and tastes (custom design, new models in small series, etc.), on the other hand, manufacture processes must be increasingly flexible, adopt just-in-time production, invest in the brand, qualified personnel, technology and innovation (APICCAPS, 2013).

This study demonstrated that the company's innovation and risk-taking have a positive and significant influence on knowledge exploitation. The analyzed companies are able to exploit knowledge through informal knowledge gather, clear definition of tasks, analysis and discussion of market trends and new product development, among others.

Dynamic capabilities can take a variety of forms and be involved in different functions, but the most important common characteristics are that they are higher level capabilities which provide opportunities for knowledge gathering and sharing, constant updating the operational processes, interaction with the environment, and decision-making evaluations (Easterby-Smith, Lyles and Peteraf, 2009). However, the existence of common features does not imply that any particular dynamic

capability is exactly alike across firms, rather they could be developed from different starting points and take unique paths (Eisenhardt and Martin, 2000).

In fact, according to the industrial organization, a company should find a favourable position in its industry from which it can better defend against competitive forces, or to influence them in his favour through strategic actions such as raising barriers to entry, etc. (Porter, 1980). This perspective is consistent with Eisenhardt and Martin (2000) regarding the uniqueness of paths. The results of this study confirm that exploitation of knowledge enable firms to achieve superior long-term performance (Teece, 2007).

#### *Theoretical and practical implications*

It is known that strategy includes deliberate and emergent initiatives adopted by management, comprising resource and capabilities use to improve business performance (Nag, Hambrick and Chen, 2007). The findings are a contribution to clarify the influence of entrepreneurial orientation on the company's knowledge exploitation. This study also enabled a thorough analysis of a highly important industry for national exports, such as footwear industry, allowing understanding that entrepreneurial orientation, as an industry strategic determinant, enhancing exploitation of knowledge.

Jansen et al. (2005) defend that companies need to develop organizational mechanisms to combine and apply newly acquired knowledge in order to deal and enhance each absorptive capacity dimension. In this study is notorious the importance of knowledge absorptive capacity to business performance. It is essential that business owners are able to interpret, integrate and apply external knowledge in order to systematically analyze change in the target market and to incorporate this knowledge in their processes to enhance performance.

In addition, the results provide guidance to business practitioners; because they indicate entrepreneurial orientation as a predictor for exploitation of knowledge. Companies are a bundle of resources and capabilities (Peteraf, 1993), it is essential to understand and identify which resources are relevant to gain competitive advantage and superior performance. In this study it is obvious the importance of entrepreneurial orientation to the firms' exploitation of knowledge. Business owners must be able to interpret, integrate and apply external knowledge in order to systematically analyze the changes that arise in their target market(s) and to incorporate this knowledge into their processes, to identify the present and future needs and market trends, anticipate changes in demand and seek new business opportunities.

By building on the literature of entrepreneurial orientation, absorptive capacity and exploitation of knowledge, this study aims to support the strategic development of business management policies designed to increase firms' performance in foreign markets and add value to the current context of change.

### *Research limitations*

The main limitation of this study is related to the sample size, since it was difficult to find companies with the willingness to collaborate in this type of research. The sample is non-probabilistic and convenience and cannot be used to infer to the general population. The study findings should therefore be analyzed with caution.

The fact that the research does not consider the effect of control variables such as size, age, location and target market of the respondents can be seen as a limitation.

Finally, the fact that this study considered only exploitation of knowledge as an absorptive capacity can also be appointed as a limitation.

### *Future Lines of Research*

In future work, we suggest that the model is used in a sample with a higher number of observations to confirm these results.

We further suggest pursuing with the investigation of strategic management in Portugal, focusing in other sectors of national economy, so that in the future one can make a comparison with similar studies, allowing realizing and finding new factors that enhance absorptive capacity.

Finally, the moderating effect of strategic variables (e.g. competitive advantage) in the relationship between entrepreneurial orientation and exploitation of knowledge should be studied.

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# OPEN INNOVATION IN THE SOCIAL SECTOR: A THEORETICAL APPROACH

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## ABSTRACT

Open innovation has gain lot of interest in the last decade and its main practices have been analyzed in various context and in several sectors. Recently, literature has shifted attention to the connection between open innovation and social innovation, proving the presence of flows of knowledge and collaborations among different actors for the development of social solutions. Nevertheless, the focus of these studies remains on public and non-profit organizations. Rather, in this paper we propose that open social innovation involves also NGOs and companies which possess knowledge, assets and technology to sustain the social challenges and to promote social innovations.

In this framework, this is a discussion paper with the purpose of further our understanding on open social innovation. Moreover, it outlines the open aspect of social innovation, with emphasis on the actors and processes that are involved in the process of generating and spread ideas that can address to a social change.

**Keywords:** *social innovation, open innovation, open social innovation, social collaboration.*

## INTRODUCTION

The open innovation paradigm has established as one of the most discussed topic in the past decade within innovation management studies (Chesbrough, 2003; Gassman and Enkel, 2004; West and Gallagher, 2006; Dahlander and Gann, 2010; Brunswicker and Vanhaverbeke, 2014), both in the academic and in the industrial world. Since its birth, more than a decade ago by now, this stream of literature has embraced several areas and contexts of analysis. In particular, the effectiveness of open innovation practices has been recognized in various sector and for firms of different size. Recently, some scholars have attempted to apply open innovation paradigm to social innovation (Chalmers, 2013; Chesbrough and Di Minim, 2014; Martins and de Souza Bermejo, 2015), coining a new term, “open social innovation”, stimulating discussions and research on this field. As a result, although the concepts of social innovation and open innovation remain separated and their interconnections have only been investigated recently by the above-mentioned studies, cues to open a debate are attractive and interesting, for at least two reasons.

First, the concept of social innovation is not yet clear and is very vague and ambiguous, and, thus, the boundaries are not well defined. Second, it is interesting to understand how key aspects of open innovation processes may contribute to the development of social innovations. For the latter, it is clear that more and more in modern society, social solutions are not developed by an individual or organization alone, but rather they are the result of collaboration and exchange of knowledge.

This work is a discussion paper with the aim of contribute to this still-gaunt topic for a better theoretical and conceptual understanding of the phenomenon. Moreover, it feeds the current debates on social innovation, reviewing the extant literature in order to clarify its concept and analyzing its connections with open innovation. Finally, this paper aims at understanding how open innovation can affect social innovation, following a research question emerged in recent literature: how open innovation can contribute to social innovation? (Chalmers, 2013; Chesbrough and Di Minim, 2014). To reach this goal, it will be carried out a broad and critical review of the literature and two propositions will be proposed.

## **SOCIAL INNOVATION**

Literature offers many definitions of social innovation demonstrating how hard is to draw boundaries to a phenomenon whose essential hallmarks are expressed in practices (Mulgan et al., 2007; Dawson and Daniels, 2010; Howaldt and Schwarz, 2010; OECD, 2010). For these reasons, the uses of the term "social innovation" is sometimes inappropriate or hard to interpret; in fact, researchers continued struggling to delineate boundaries of the field (Mulgan, 2006).

Many scholars try to explain the phenomenon separating social innovation from business innovation (also technical innovation for many authors), while others completely abandon the notion of social innovation, arguing that is nothing new with respect to innovation and is too ambiguous to be useful. The greatest distinction can be done based on the final goals of innovation. According to the OECD (2010), "Social innovation seeks new answers to social problems by: identifying and delivering new services that improve the quality of life of individuals and communities; identifying and implementing new labour market integration processes, new competencies, new jobs, and new forms of participation, as diverse elements that each contribute to improving the position of individuals in the workforce".

Thus, given this widely accepted definition, every innovation can be considered relatively social, such as the watch, the smartphone, the computer, internet and in general any innovation that has allowed the improvement of human life over time. In this sense, it is interesting the contribution of Pol and Ville (2009) who state that the primary purpose of any firm is social, including profit-seeking firms. The authors claim that the "social" aspect of innovation regards that when an innovation is successful,

people and communities can benefit from this new idea. Therefore, social innovation and business innovation very often may coincide. In this sense, many authors stress that some tools and mechanisms typical of business innovation can perfectly fit in the social innovation process (Murray et al. 2010; Saul, 2010). Moreover, a social problem can be satisfied by both social innovation and business innovation (Cajaiba-Santana, 2013). In fact, already in 1995, the European Commission underlined that "the social aspect" is intrinsic in the concept of innovation.

However, Mulgan et al. (2007) have thought the opposite, highlighting that social innovation is different from business innovation, since the latter is often motivated by profit maximization and is supported by firms that have as their primary purpose the profit. Still according to OECD (2010), the biggest difference with business innovation, is that social innovation aim at satisfying new needs not provided by the market.

In line with this branch of study, social innovation is intended different from another innovation that comes from outright market competition and which purpose is the seek for profit. Moreover, at the origin of these innovation processes there are social pressures exerted by the existence of unmet needs (eg. health services), of wasted resources (eg. land consumption), environmental emergencies (eg. air quality towns) or social aspects (eg. the growing areas of discomfort and marginality) (Davies and Simon, 2013).

A middle way between the two theoretical strands, is represented by the contribution of Westley and Antdadze (2010), who highlight that social innovation does not necessarily involve a commercial interest, though it does not preclude such interest.

Finally, from the point of view of the actor that promotes and supports social innovation, Cajaiba-Santana (2013), proposes two perspectives of analysis. On one side, social innovation is created and sustained by a single individual through an individualistic and behavioral approach, the social entrepreneur proposed by Lettice and Parekh (2010). On the other side, social innovation is fostered in a broader context and in an external perspective. In this sense, social innovations can be derived not only from public organizations, but also from firms and informal groups of citizens (Mair and Martì, 2006; Dacin et al. 2011, Nicholls and Murdock, 2011).

## **OPEN SOCIAL INNOVATION: A NEW PHENOMENON?**

Analyzing the open innovation paradigm, the point of break with the past concerns the shift from a vertically integrated innovation process system within the firm, with a large focus on internal R&D, to an open approach in every phase of the innovation process, through strategies of acquiring, sourcing, selling and revealing (Chesbrough, 2003; Dahlander and Gann, 2010). Similarly, within the context of open social innovation, we would propose that the point of break with the past concerns the transition

from a new idea to satisfy a social problem promoted by a single non-profit entity (social entrepreneur as presented by Lettice and Parekh, 2010), to a collaborative approach which includes several entities of different nature and with different purposes.

In this sense, recent qualitative studies are univocal in emphasizing the importance of alliances in sustaining social changes and systematic relationships between different entities (Murray et al., 2010; Ferraris and Santoro, 2014), even through the creation and exploitation of ecosystems (Ranga and Etzkowitz, 2013; Ferraris and Grieco, 2014).

**Table 1.** *From social to open social innovation.*

	Social innovation	Open social innovation
Final goal	Satisfy social needs, improve life of individuals and communities (OECD, 2010)	Join social and commercial interest (Pol and Ville, 2009; Westley and Antadze, 2010)
Actors involved	Individuals (Lettice and Parekh, 2010; Cajaiba-Santana 2013), foundations, social entrepreneurs, NGOs, governments (Murray et al. 2010).	Private (Huizingh, 2011), users (Chalmers, 2013), ecosystem involving public, private, users, university and research centers (Nicholls and Murdock, 2011; Ranga and Etzkowitz, 2013; Ferraris and Grieco, 2014), governments and communities (Martins and de Souza Bermejo, 2015)
Innovation process	Single-entity actions (Lettice and Parekh, 2010)	Collaborative actions through inbound, outbound and coupled processes (Chesbrough and Di Minin, 2014; Martins and de Souza Bermejo, 2015)

*Source: adapted from Martins and de Souza Bermejo (2015)*

Chesbrough and Di Minin (2014) highlight the importance of inbound and outbound activities even for NGOs and organizations from public sector, to reach social goals. The inbound activities identify the seek for external innovative solutions, idea, knowledge and technology. The outbound activities refer to bring ideas to market selling IP and transferring technology and knowledge to other entities. Chalmers (2013) emphasized how “openness” can overcome common barriers to social innovation

and mitigate some of the risk of the innovation process. Within open social innovation context, Martins and de Souza Bermejo (2015), emphasized the role of the continuous collaboration between several actors of different nature, approaching the so-called coupled process, the third archetype present in the literature on open innovation (Gassmann and Enkel, 2004).

Among all the external sources widely individuated in the literature, the customers play a key role both within business innovation (Franke and Piller, 2004; von Hippel, 2005; von Hippel and Katz, 2002), and social innovations (Henkel and von Hippel, 2003; Broberg, 2010; Neumeier, 2012; Chalmers, 2013). In particular, they own and can directly transfer specific knowledge about their needs, so an engagement process would help a better understanding of the problems to ensure a fast track towards the solution.

The following table shows the transition from social innovation to open social innovation based on major literature contributions.

## DISCUSSION AND PROPOSITIONS

Consequently, the considerations made so far lead us to define open social innovation as all those activities and processes that support the promotion of new ideas (products or services), through the transfer of knowledge and technologies (inbound and outbound activities) and collaborations between different entities (coupled processes), that lead to social impact. From this point of view, different fields of study may be related. For example, the topic of Smart City falls right into open social innovation borders, since it concerns collaborations between different actors (including public and private), for the implementation of innovations which aim to make the city a better place for the citizens. Furthermore, the concept of Public-Private Partnership (PPP) take part in the same stream. From this perspective, well-known companies in the ICT sector, such as Microsoft, IBM and Cisco are involved in Smart City projects in close collaboration with local governments to provide a technological support to reach social change.

Therefore, the present work would suggests two propositions regarding open social innovation. First, a business innovation can be considered a social innovation to the extent that produces any positive effects on the quality of people's life with no negative effects. In this way, as Westley and Antdadze (2010) noted, social innovation could involve commercial interest opening to the "market mechanisms" typical of the business world. Thus, organizations that seek to meet social needs, may rely on the main pecuniary and non-pecuniary processes of open innovation such as revealing, selling, sourcing, and acquiring (Dahlander and Gann, 2010), leading greater efficiency and effectiveness in the innovation process. A business interest can also involve technology or business model testing that could bring future profits in other areas of application. For example, Google is actually testing various

technologies such as Google Glass, in the social, medical and cultural fields. In addition, a business model can ensure the scalability and sustainability of the social innovation over time (Prahalad, 2012).

*Proposition 1: open social innovation can involve both social and commercial interests, bringing to pecuniary and non-pecuniary open innovation activities.*

Second, the development of social innovations can arise from transferring knowledge and technology between different organizations or from a constant collaboration between several actors, including companies, public entities, NGOs and people. Thus, even the “pure social innovations”, that are all those that satisfy unmet needs (Pol and Ville, 2009), may benefit from inbound activities. In fact, the governments can seek and acquire knowledge and resources from private, which may profit from outbound activities, with the final aim at satisfying these social needs.

As stated before, social innovations must be ignited by different parties that work synergistically and between them acquires great importance the private organization (Porter and Kramer, 2011), for at least two reasons. First, the economic crisis has reduced the possibility of spending of public administrations and local governments. Second, the private side has capabilities, competencies and technologies that the public does not own. One of these competences regard the development of a business model that can ensure a financial sustainability to social programs (Chesbrough et al., 2006). Consequently, whereas the “public” is not able to meet certain needs, for financial resources constraints or/and lack of capabilities, the “private” may find new solutions to social problems and look for new business opportunities.

*Proposition 2: open social innovation can occur from collaborative relationships between several actors of different nature, as public, private, NGOs and customers, through inbound, outbound and coupled processes.*

## CONCLUSIONS

Summarizing, in line with the cues and propositions, this paper aims at contextualizing the range of open social innovation and stimulating future research on this field both from the perspective of organizations who seek for social change as primary purpose (Chesbrough and Di Minin, 2014) and private organizations who achieve indirectly social change through business innovations (Porter and Kramer, 2011).

Current social challenges call for open and collaborative actions between different stakeholders, cutting across sectorial boundaries. Public, private and civil society sectors can share resources and competencies in order to increase the innovative potential for all areas of civic and social life.

Nevertheless, very few efforts have been done so far in linking open innovation practices to social challenges. Thus, we theoretically suggest that openness in the social sector can contribute with higher efficiency, higher likelihood of transformative change exploiting new technological solutions, ensuring financial sustainability and overcoming the barriers associated with social innovation development process.

From this point of view, more case studies at open social innovation single-project level would help to build a theoretical base and a conceptual framework around it, analyzing the phenomenon from different point of view such as governance, IPR management, and technology and knowledge transfer between different parties.

Of course, this paper has several limitations. The most relevant regards the lack of empirical evidence. This is due to the fact that, being only at the beginning of its development, the open social innovation topic does not have a theoretical foundation.

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## THE HALAL CERTIFICATE IN THE CONTEXT OF NATIONAL BRANDING

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### ABSTRACT

Although the literature is increasing considerably regarding the brand concept, Halal brand is still not well-known, both in non-Muslim countries, and worldwide. This exploratory study presents the perception that consumers have over Halal businesses from around the world, focusing on consumer perception on Halal brand in a non-Muslim country compared to a Muslim country. This research identified a global need to regulate and to stabilize the Halal brand so that it can have the same success as the organic brand products, even in light of the fact that a certified product, also organic, Halal and Kosher lead to a premium product with the highest added value in the global market.

**Keywords:** *Halal, Muslim, non-Muslim, branding, Halal certification*

### INTRODUCTION

The particular literature about Islamic Branding continues to be growing quickly although analysis interest about Muslim client viewpoint about Halal branding is scarce. The particular Marketing literature about branding is abundant and checked out distinct viewpoints. Keller (Keller, 1998) defines Branding as labelling items as well as offering significance, where by brand names established are able to obtain a specific higher level of recognition as well as create an attachment together with shoppers. Brand is defined in a lot more illustrative means seeing that “a name, term, sign, symbol or design or a combination of them, intended to identify the goods or services of one seller or group of sellers to differentiate them from those of the competitors” (Kotler *et al*, 2007). People see Branding as a way to generate differentiation and preference within the thoughts of shoppers (Xie & Boggs, 2006). Out of this academic perspective “Halal” is like a symbolic representation absolutely qualified to be thought as a brand that may identify a product coming from non-Halal choices and also to generate inclination and attachment with consumers’ mind as the best option they will choose to utilize. Nevertheless, taking purchaser psychology in mind,

advertising strategists need to have additional insight into the use of 'Halal' like a brand symbol representation for creating purchaser attachment and tastes for any sustainable competitive advantage inside the market segment.

Malaysia popularized the Halal notion along with a number of practical efforts with the government and private sectors. The political environment has strengthened with government policies by introducing Halal certification. This measure was taken for making Malaysia a Halal Food Center for processing Halal food, for local and global market segments. These pursuits are shown inside the appearance involving high percentage Malaysia-based Halal trademarks to certify items and companies as distributors of Halal items. Strangely enough, these kind of Halal trademarks aren't uniform enough to represent uniqueness of the items to be regarded as completely different from non-Halal qualified products.



Figure 1. *Malaysia Halal Logo*

Australia, on the other hand, incorporates a tiny Muslim group (estimation only close to 1.5% of the population) but its export to international Muslim markets in the world is actually approximated for a worth close to 8 billion dollars per year. Based on Food Safety Australia report, you can find at the least 15 corporations at the state and national wide ranges as well as Australian Halal Food Services Trust, Halal Certification Authority Australia, Australian Federation of Islamic Council, Islamic Co-coordinating Council of Victoria and Perth Mosque (Western Australia) which could certify a corporation as Halal. Halal certification is licensed by the National Federal government through the Australian Quarantine and Inspection Service (AQIS).



Figure 2. *Australia Halal Logo*

Interestingly enough, Halal logos are not just unique regarding different certifying organizations. "Halal" as a brand claimed to be created by some Muslims that came in contact to "Kosher" brand in America, and worked well in 1970s to ascertain some sort of controlling system about the legal Islamic food and diet. Perhaps surprisingly, during our research, we found only a few listed Halal certifying enterprises for the state levels and none has been plainly found to be national select body inside its birth place. Minimal exploration along with anecdotal research recommends rising purchaser awareness of Halal branding. However, inconsistent use of the Halal logo confuses quite a few and impacts positive perception.

Besides this kind of confusion over the Halal logo, many Muslim buyers often have different perceptions involving Halal wherever Halal certification is not considered just a qualifying measure intended for picking suitable solutions intended for usage. As an example, country of origin along with lack of 'haram' elements within the product are thought as additional ways of implementing solutions that may please individuals' idea of Halal usage. For a lot of Muslims in the world, Halal is usually a part of a belief system and moral code of conduct, which is crucial in the everyday life connected with Muslim community (Wilson and Liu, 2010). From that point of view, the understanding of Halal is the core of every Muslim's belief and it is thought to be referred as necessity, and it is based upon the typical rule regarding Islamic jurisprudence which in turn keeps every little thing as Halal unless stated otherwise. These kinds of viewpoints could have an effect on the recognition and usage of Halal branded products, or legitimate Islamic or even inbound Islamic brands and also traditional Islamic brands. However, thus far no study has looked into consumer belief on this with rigor.

## THE HALAL BRANDING

Islamic Marketing as an area of study remains with curdles and the literature on Islamic Branding remains rare. A research on 'Islamic Branding' along with 'Halal Branding' listed only a small number of scholarly journal articles or blog posts (Alserhan, 2010; Wilson along with Liu, 2010) and mostly inside the new Journal of Islamic Marketing. An additional handful seminar papers (Nooh *et. al*, 2007; Danish *et. al*, 2010) addressed 'Halal Branding' from customer and also marketing points of views. While each of the scholarly record posts usually is conceptual in nature, this discussion forms noted customer understanding upon Halal goods in Malaysia. In addition to these kinds of limited scholarly posts, some chats on Islamic/Halal branding also can be found in Halal Journal, Business press and a few Islamic webpages.

The regular perspective on the literature is that the idea of 'Islamic Branding' puts its appeal firmly on Shariah guidelines, the impression connected with purity, welfare and human race connected with Islamic brand are also focus of some writers (Abdullah, 2010; Temporal, 2010). It is specified that Islamic branding is like a brand that is based on life values connected with Islam (Abdullah, 2010). Certainly that conveys towards the Muslim and the community which the brand offers adheres to the particular unique codes and principles of Islam, and in so doing associating with the brand would benefit these people with regard to doing a 'good deed' (Alserhan, 2010a).

The idea of "Halal" is central in the Islamic Branding, where Halal throughout Arabic means appropriate or permissible in Islam plus it is true of every area of Islamic life instead of merely limited to food and beverages. Inside various other phrases, Halal is the portion of a belief system and moral code of conduct associated with and carryout throughout Islam, which can be vital in day to day life in Muslim group (Wilson and Liu, 2010). So Muslims customers would hunt for Halal lifestyle for rewards of accomplishing good deeds and also avoid haram (non-permissible or prohibited) in order to avoid carrying out sin and punishment (Alserhan, 2010). When it comes to use of items, products and services, Halal accreditation assists Muslim buyers to help easily distinguish the acceptability of a product from the list of alternative products already in the market with that target in mind.

The term “Halal” in Arabic is usually a symbol or a sign that is utilized in many products to communicate Shariah conformity with the product. Even so, many authors of these studies notice HALAL linked to clean, much healthier or tastier (Al-Harran and Low, 2008) and little by little they end up to be suitable for a consumer life-style choice over and above religious practices and foodstuff, and as well within finance, non-food goods, logistics, refreshments, makeup products, prescription, hotel and cosmetics ( Power, 2008; Knott, 2009).

The socio-political and also financial environment of some of the Muslim nations has added towards the progress of local businesses to cater for the local and worldwide needs regarding Shariah compliant products and services. Financial progress has led to the considerable progress of client areas in those nations and become part of the globalized costumers. They share the similar features of their developed nation counterparts together with their dedication to the spiritual obligations involving adherence to the Islamic way of existence.

This original consumption has brought the public and personal initiatives to be able to accomplish the development of organizational setup for certification of Shariah compliant production, storage, vehicles and supply of products and services by locally expanded business plus the development of true Islamic brands by classification (Alserhan, 2010).

An article released in the Journal of Islamic Marketing researched the impact involving religiosity on customer new product or service adoption (Rehman and Shabbir, 2010). Although the study model purely looked at the impact of various dimensions of religiosity of a buyer about his/her new brand adoption behaviour, the model provides a merit to be helpful to describe Muslim consumers’ adoption of HALAL products and various types of Islamic brands especially. As the research endeavours to explore the Muslim buyer perceptions as a result of exploratory qualitative approaches where no a-priori analysis expectation is unwarranted, the next general statements have been in mind for that variation of Rehman and Shabbir’s model on this study: “The greater the religiosity of the consumer, the higher the adoption of true Islamic brands” and “The greater the religiosity of the consumer, the lesser the adoption of traditional and inbound Islamic brands”.

## **METHODOLOGY, DESIGN AND RESEARCH**

The on-going investigation is conducted in order to find out the consciousness and notion of Halal brand among Muslim buyers in a non-Muslim state (Australia) and also in a mainly Muslim state (Malaysia) at initial stage. Since the research dilemma of this investigation attempts to touch a new recently unexplored place for the understanding Muslim consumers' notion of diverse families of Halal brands, an exploratory investigation approach is proper. Even so, the study furthermore needs to check a model to look into the actual effect connected with religiosity on buyer usage of unique types of Halal product where a causal investigation approach is acceptable. As a result, a new merged technique investigation approach has been acquired to recognize buyer point of view of Halal being a brand among Muslim consumers.

The qualitative strategy has been used with the first cycle of the research in order to clearly understand purchaser point of view on Halal brands and define the research issue better when it comes to creating the study model for empirical assessment as a result of quantitative research.

A qualitative method involving data selection by means of in-depth interview and focus group interview encourages greater understanding of consumers' attitude and belief. As a result, in-depth one-on-one interviews were set up in the beginning to recognize the problem at hand coming from scholars. The initial interview had been with an Islamic scholar and Director of Islamic Studies of a college in Brisbane, Australia.

The next interview was with a scholar of Islamic Banking and Finance from the same college in Brisbane (Australia) that had been arranged to comprehend his professional understanding on usage of Shariah compliant goods in general as well as Islamic Finance. The third interview with a Marketing expert in Malaysia supplied the necessary understanding of purchaser belief regarding Halal branding within Malaysia.

Each one of these interviews took close to one hour. The initial interview in particular was targeted at understanding the particular Shariah rules of Halal and haram throughout Islamic life style, intricacy in the consumption circumstances for Muslim customers within a non-Muslim land including Australia, Halal certification throughout Australia, and looking for his expert thoughts and opinions on a preliminary study instrument for the next step in the study.

## CONCLUSIONS

The initial interview with the Islamic academic offered an interesting understanding in the concept of Islamic means of existence in a Multicultural community of Australia in which Muslims from diverse socio-cultural circumstances interact with the normal Australia culture in addition to a blended Muslim community.

On such basis as his regular interaction with the leading Islamic bodies throughout Australia, political figures at the Federal, State and national levels, Australian local community at large along with the Muslim local community throughout Brisbane as an ex-Imam inside a local mosque, he supplied a very balanced approach to the framework of implementing Halal branded services and products in the Australian community. Like most individuals interviewed in one-on-one and focus group interviews in Australia, this individual raised the problem concerning the authenticity involving a number of the Halal certifying organizations.

They agreed that variation of custom and practices in different Muslim nations help with the different meaning of Shariah guidelines relating to Halal and formation of unique certifying institutions within Australia. He pointed out that this Australian National Imam Council (ANIC) might have been keeping track of the Halal certifying organizations but ANIC has no personal and financial strength to perform this kind of supervising role. They pointed their satisfaction with Halal certified goods of some International institutions located in a number of Muslim nations as opposed to just all goods produced by the same company in other states. They stressed out the importance of purity and the humanitarian aspect rather than simply Halal official certifications that he imagines as “commercialization of Islam” by means of large businesses.

The interview with another college academic from Brisbane confirmed some of the Halal associated troubles stated by Islamic academic. This immigrant from South Africa staying in Brisbane for more than two decades mentioned that he always favours Halal merchandise. However, simply Halal certifications through any kind of institution really does not fulfil his Halal necessity and also isn't going to assume that any kind of product or service from a Muslim nation could be Halal unless licensed by a reliable certifying institution. He likes examining for ingredients in the goods rather than depending upon



Halal certification because a few institutions misuse Halal certification and he pointed out his reservation with the Halal certification used by a few International organizations in their conformity involving appropriate Shariah qualification.

The interview with a marketing professor in Malaysia exposed a different point of view on Halal certification. This extremely practicing Malaysian Muslim sees the locally manufactured Halal goods authorized by JAKIM as real and trustworthy. However, she isn't going to believe that all goods manufactured in Malaysia or other Muslim places are generally Halal unless certified. She isn't going to count only upon Halal qualifications of a diner unless owned by Muslim. She portrayed her reliance upon renowned Multinational brands which have been Halal certified and also manufactured in Muslim states. To her, Halal certification is sufficient in the event that the product comes from a store having solely Halal goods and she doesn't trouble to verify the ingredients of the goods.

Every second practicing Muslim men additionally depicted their own wish for Halal way of life; each of them knew the different Halal brands connected of foods, pharmaceutical drugs, health-related and beauty items and they preferred to buy those goods. Nevertheless, their standards of taking Halal product or service weren't that stringent and stated their acceptance of a product so long as it has a Halal logo of any certifying institution. They even stated their acclaim of International brands that are targeted to Muslim marketplaces or even merchandise that focus on purity and humanity even if not Halal certified. Additionally, they prefer examining the ingredients listed on the product instead of believing Halal logo and they also have smaller reservations about any Halal certified goods produced in non-Muslim states. They also believe that nearly all items produced in Muslim nations are Halal and they prefer purchasing those items from ethnic grocery stores.

Being at an early point, results are tentative and need additional testing in future studies along with other cross-country reports. It will increase our familiarity with Islamic Marketing and branding for the advantage of growing consumption requirements of Muslim community within this globalized market economy. Findings include realistic benefits pertaining to entrepreneurs as well as Islamic councils/bodies around the world to be aware of the importance of standardizing the Halal logo and supervising its use by entrepreneurs continually. To be able to win the approval of cross-section of Muslim consumers international firms should commit more of their resources on understanding Muslim

customer perception and also integrate Shariah compliance within their attempt to target this rising market.

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## AN INVESTIGATION ON THE DEVELOPMENT OF THE ROMANIAN AGRO-TOURISTIC SECTOR DURING 2005-2015

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### ABSTRACT

Tourism is one of the most important sectors of every country that has an extraordinary richness in natural resources. More and more tourists choose to spend their holiday in a rural, isolated, natural and clean environment. Every day, their preferences tend to diversify: under the social stress of urban areas, tourists are opting for less crowded and wild locations.

Despite the opportunities and natural tourism resources in Romania, the rural tourism hasn't reached its peak potential yet. However, it provides to their guests both the chance to relax in nature, away from congested and polluted areas, and the opportunity to participate in various cultural, historical or agricultural activities. In light of these opportunities, the rural tourism has recorded an increasing rate of development. Local and foreign tourist started to appreciate and take advantage of cost efficient benefits of organic food produced *a la carte*, locally by the host.

The study analyses growth of agro-tourism in Romania during the last decade (2005-2015), based on official collected data processed and interpreted with statistical approaches.

A significant conclusion shows that the rural tourism and agro tourism benefit from a major expansion in Romania, due to the increasing motivation and skills of the locals, the increasing number of tourism housing units, and the diversified options put together for the benefit of the tourist.

**Keywords:** *Rural tourism, Agro tourism, Agro touristic, Accommodation, Romania*

### INTRODUCTION

Romania is one of the richest countries in Central and Eastern Europe in terms of natural resources and tourism. Most experts believe that through professional management and marketing, considering the touristic potential of our country, Romania can excel and compete with the biggest countries in the world, which by default will have direct effect on the entire economic sector. Romania excels in terms of natural wealth, with a high touristic potential, thereby supporting the entire economic sector of this country (Andrei et al, 2012).

Rural tourism is a much broader concept that includes agro tourism. Although these two concepts are different in literature, most authors consider them identical. An important aspect to note is that agro tourism is different due to the specific characteristics they offer tourists (Branzan, 2006). One of these features is represented by the fact that tourists are welcomed into the local's household. Another important feature is the fact that tourists are allowed to participate in different activities such as livestock farming, cultivation of different types of plants or trees. The third important feature is that tourists eat food and natural products grown and obtained predominantly in the household. Agro tourism is in addition to agriculture one of the most important factors of development in rural areas, thanks to the diversification of agricultural activities, profit driven activities and creating new jobs opportunities.

Nowadays, the human tendency is to return to the quiet of the countryside and nature, away from the hustle and pollution in urban areas, in order to bring everything that is natural, pure and unadulterated closer (Jarkko, 2006).

## THE CONCEPT OF AGRO-TOURISM

Agro tourism or 'green tourism' can be defined as a form of tourism found in rural, natural, unpolluted, picturesque areas that relies on the provision of accommodation, meals, entertainment, interaction with the socio-natural environment and others that put value on the natural and anthropogenic resources of villages, representing a plus in development and living standards of the rural population (Ciugudean, 2009).



Figure 1. *Agro-tourism specific landscape in Romania*

Agro tourism seeks to harness the rural areas with tourism, agricultural and techno-economic potential, presenting in this respect a number of features that sets it apart from standard tourism: tourism demand, takes place in rural areas where essentials are: the originality of tourism products, knowledge of the natural, human and cultural environment, quality of reception; authenticity of the tourism offer, its multiple diversity and the fact that it is run by the villagers; It is not an alternative or replacement of farming, but it is a complementary economic activity to it; low-income population the opportunity to enjoy rest, recuperation, to spend time in a rural, scenic, cultural environment with educational values and specific hospitality; infrastructure, superstructure or other tourist facilities do not require very high profile investments; the avoiding the congested seaside, mountain or health resorts (Dobre, 2006).

Agro tourism in Romania was always implemented sporadically and, randomly, mostly unorganized in the 20s-30s. It represents an important way of attracting tourism and is represented by a varied and wide range of: folk music, weaving, pottery, painting on glass and wood, sculpture, traditional costumes, decorative fabrics, and also traditional food.

Romania accounts for a wide range of cultural and historical values like: folklore, ethnography, traditions, historical artefacts, folk art. All this adds more value to the Romanian rural tourism (Glavan, 2003).



Figure 2. *Traditional artefacts in agro-tourism sector in Romania*

In 1972 the Ministry of Tourism has selected 118 rural settlements representative of Romania to be promoted in tourism, thus putting the foundations of agro tourism. A total of 14 rural settlements were declared "tourism villages" in 10 counties of Romania: Poiana Sarata (Bacau), Recas (Timis), Tismana (Gorj) Vaideeni (Valcea), Bogdan Voda (Maramures), Fundata and Sirnea (Brasov) Sibiel (Sibiu), Vatra Moldovitei (Suceava), by the Minister of Tourism legal act no. 744/16 in July 1973.

In Romania there are numerous agro touristic products submitted to tourists that can lead to obtainable benefits and facilities: the opportunity for tourists to participate, attend a variety of traditional activities in the household, the advantage of preparing food by tourists from traditional, Innovation, Entrepreneurship and Digital Ecosystems

organic, fresh products obtained in the nearby villages and specific households, participation in shows, fairs and traditional village dances (Fîntîneru, 2005).

## **MATERIALS, METHODOLOGY AND RESEARCH**

The information underlying this article comes from different sources in agro tourism field. The main source is the National Institute of Statistics, NIS, from which we get statistical data from the period 2005-2015 relating to structures of tourist reception that include tourist accommodation in different types of structures, namely: the number of tourist attractions in Romania like inns, tourist inns capacity accommodation, number of tourist lodges, chalets tourist accommodation capacity, the number of agro tourism pensions, the capacity of agro tourism pensions accommodations, the total number of units of accommodation options in Romania and their accommodation capacity. Other sources underlying this research are: Ministry of Agriculture and Rural Development MARD, where we processed the data on agro tourism in Romania, on the agricultural economy and on rural tourism; The National Association for Rural, Ecological and cultural A.N.T.R.E.C, founded in 1994 with a role in rural tourism; The literature in the field of tourism, about which we can say that Romania is not very thorough, having only general studies.

## **RESULTS**

Romanian tourism focuses on nature, landscape and its rich history, indicating a significant contribution to the economic development of the country. Tourism is the second important economic branch of Romania after commerce, being dynamic, with a fairly fast development and great potential for expansion. According to studies, in 2006 domestic and international tourism has secured 4.8% of GDP, about half a million jobs, which means 5.8% of total employment in Romania. Romania has a yearly increasing potential in this sector of about 8% from 2007 until 2016. If in 2002 the tourists number accounted about 4.8 million, in 2005, the investments in the field got over 400 million Euros. Famous during the past times, the Black Sea has register in 2010 only 1.8 million tourists, 15% fewer than in 2009. In 2009 Romania had 1.27 million foreign tourists and in 2010 had an increase of up to 1.34 million. In Romania and in other countries there are many travel agencies that contribute to the influx of foreign tourists. They can make bookings at pensions, hotels, hostels, tourist lodges and motels directly on their websites. Romanian tourism brings currently less than 1% of GDP, i.e. \$ 1.8 billion annually, from 1.9 million of foreign tourists.

Year	Inns		Chalets		Agro Pensions touristic		Units with accommodation structures (hotels, hostels, motels, inns, cottages, villas, houses)	
	Nr.	Housing capacity	Nr.	Housing capacity	Nr.	Housing capacity	Nr.	Housing capacity
2005	11	292	113	5.961	956	11.151	4.226	283.194
2006	9	278	116	5.875	1.259	14.551	4.710	287.158
2007	6	186	108	5.574	1.292	15.448	4.694	283.701
2008	5	136	116	5.207	1.384	16.906	4.840	294.210
2009	5	136	123	5.887	1.412	19.783	5.095	303.486
2010	4	97	134	5.667	1.354	20.208	5.222	311.698
2011	4	77	147	5.928	1.210	20.683	5.003	278.503
2012	3	81	146	5.150	1.569	27.453	5.821	301.109
2013	3	61	152	5.183	1.598	28.775	6.009	305.707
2014	5	143	162	5.128	1.665	30.480	6.130	311.288
2015	3	63	196	5.876	1.918	35.188	6.821	328.313

Table 1. *The evolution of agro tourism sector during the period 2005-2015 by type of tourist accommodation structures and their housing ability in Romania*

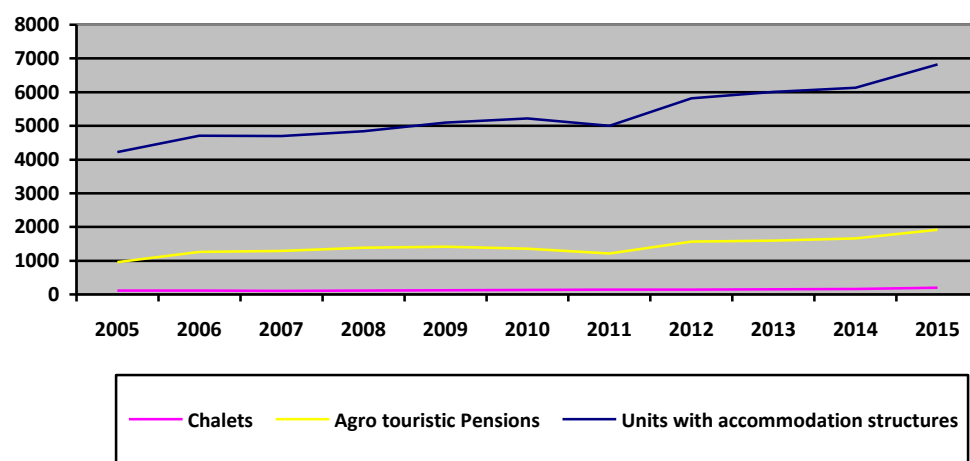


Figure 3. *The evolution of agro tourism sector during the period 2005-2015 by type of tourist accommodation structures and their housing ability in Romania*

As shown in the table 1 and in figure 1, the number of tourist inns in Romania in 2005-2013 significantly decreased by 72.72% in 2013 to 2014 was an increase of 66.67%, following that in 2014 to 2015 to fall by 40%. Analysing the tourist accommodation capacity existing within tourist inns from 2005 until 2011 we can say that it was recorded a decrease of 73.63% during 2011-2012 following that a slight increase of 5.2% occurred. During 2012-2013 the number of accommodation decreased by 24.69% and 2013-2014 increased significantly; by 134.43%, so that in 2014-2015 to register a decrease of 55.94%.

The number of tourist chalets in Romania registered an increase of 2.6% in 2005-2006, in 2006-2007 the number dropped by 6.89% and in 2007-2008 the number increased by 7.41%. During 2008-2011 the

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number of tourist lodges experienced a significant increase of approximately 26.73%, following that in the next period 2011 to 2012 having a slight decrease, by 0.68%. From 2012 until 2015 was a significant increase, by 34.25%.

The housing at tourist lodges during 2005-2008 has decreased by 12.64%, so that in 2008-2009 to grow by 13.06%. Their capacity in 2009-2010 decreased by 3.73% and in 2010-2011 had an increase of 4.61%. During 2011-2014 a fluctuation in the number of beds existing in tourist chalets was recorded, namely: in 2011-2012 the number decreased by 13.12% in 2012-2013 there was a slight increase, by 0.64% and in 2013-2014 there was a drop in the number of seats of 1.06%. During 2014-2015 can be seen an increase of 14.59%.

Figures in table 1 show that the number of agro touristic pensions in Romania in 2005-2015 recorded a significant evolution: during 2005-2009 an increase of 47.7% was recorded, with 2009-2011 showing a decrease in agro touristic pensions of 14.3% and in 2011 to 2015 another significant increases of 58.52%. Analysing the accommodation capacity of agro touristic pensions in Romania during 2005-2015, a considerable increase is outlined, in the number of housing places of agro touristic pensions by 215.56%.

The total number of all units in Romania with accommodation options including hotels, hostels, motels, inns, villas, chalets, bungalows, holiday villages, camp sites, tourist stops, tourist cabins, student camps, youth hostels etc. grew in 2005-2006 by 11.46%, so that in 2006-2007 to decline by 0.34%. During 2007 to 2010 had an increase of 11.25% and in 2010 to 2011 had a decrease by 4.19%. From 2011 until 2015 the number of units of accommodation options in Romania was continuously growing, up to 36.34%.

Year	Inns	Chalets	Agro touristic Pensions	Units with accommodation structures (hotels, hostels, motels, inns, cottages, villas, houses, etc.)
2005	4.084	64.480	170.164	5.805.096
2006	5.502	71.167	217.020	6.216.028
2007	5.456	92.117	288.508	6.971.925
2008	1.877	107.110	357.617	7.125.307
2009	914	86.961	325.686	6.141.135
2010	638	73.992	289.923	6.072.757
2011	611	80.479	360.696	7.031.606
2012	823	86.322	447.113	7.686.489
2013	643	94.888	501.746	7.943.153
2014	1.336	94.049	549.302	8.465.909

Table 2. *The evolution of the number of tourists during 2005-2014, in tourist housing structures with tourist housing functions, in Romania*



The accommodation capacity of all units with specific structure of Romania in 2005-2006 saw a slight increase of 1.4%, in 2006 to 2007 a decline by 1.2%. From 2007 until 2010 the number of accommodation units with housing structure increased by 9.87%, so that in 2010-2011 to drop by 10.65%. Between 2011 and 2015 the number of accommodations had a continuous growth, up to 17.89%.

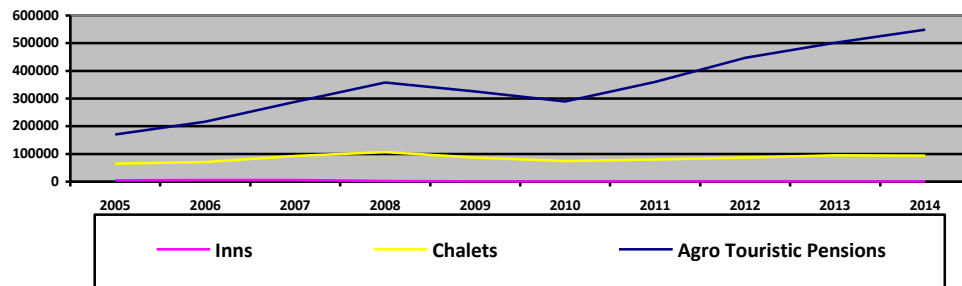


Figure 4. *The evolution of the number of tourists during 2005-2014, in tourist housing structures with tourist housing functions, in Romania*

The second table and the second figure of this research outline the number of tourists that spent their holidays in Romania, during 2005-2014, by touristic housing; figures delineate a significant evolution. The number of tourists recorded in accommodation units of tourist inn type in 2005-2006 increased by 34.72%, so that during 2006-2011 to drop substantially by 88.89%. From 2011 until 2012 there was a slight increase of 34.7% and between 2012 and 2013 the number of tourists dropped by 21.87%, so that in 2013-2014 to register a significant increase of 107.78%.

The number of tourist accommodation in chalets, between 2005 and 2008, recorded a considerable increase of 66.12%, and in the next period from 2008 to 2010 recorded a decrease of 30.92%. Between 2010 and 2013, the number of tourists recorded in tourist chalets increased by 17.91%, and between 2013 and 2014 fell by 0.88%.

Regarding the agro tourism housing structure, the number of registered tourists during 2005-2008 has seen a significant increase of 110.16% and from 2008 until 2010 there was a decrease in the number of tourists of 18.93%. During 2010-2014 the number of tourists in agro touristic accommodation units increased significantly by 89.47% compared to previous years. Analysing the number of tourists registered in all tourist accommodation units with touristic housing structure of Romania, we noted that during 2005-2008 it increased by 22.75% and in 2008-2010 dropped by 14.77%. Between the years 2010 and 2015 was recorded an increase of 39.41%.

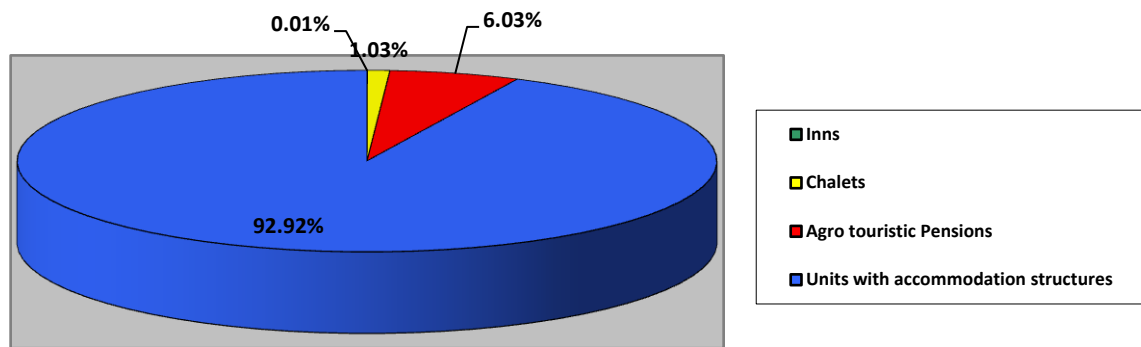


Figure 5. *The number of tourists in tourist housing structures with tourist housing functions, in Romania, 2014*

## CONCLUSIONS

The conclusions are made based on the analysis of agro tourism development in Romania during 2005-2015, namely the number of agro touristic pensions, where we have seen a significant increase in units and accommodation capacity in tourist housing structures that serve the function of agro touristic interactive accommodation.

Analysing the number of tourists recorded during 2005-2014 in agro tourism we conclude that there has been a considerable increase among this type of tourism structures, which is an advantage for Romania's rural economy.

It has also been found a significantly increase of tourism in Romania after the analysis regarding the evolution of the number of units of accommodation including hotels, hostels, motels, inns, villas, chalets, bungalows, holiday villages, camping, travel plazas, houses tourist camps, students camps, youth hostels etc. and their accommodation capacity. Analysing the number of tourists of these units during 2005-2014 we notice a high increase that helps Romania's tourism economy greatly.

Based on this analysis of agro tourism we can say that tourists have a number of reasons for choosing agro touristic pensions, including the stay price, peace and quiet, naturalness of country life, the warmth with which they are met, the authenticity, knowledge of nature, traditional and ecological food, the advantage of self-cooked meals and participation in a wide range of traditional activities.

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## ATTAINING INNOVATION OUTCOMES THROUGH MANAGEMENT CONTROL

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### ABSTRACT

This research investigates the mechanisms of innovation control in attaining outcomes at different organisational levels (divided into people-related outcomes, organisational outcomes, and financial outcomes). The current literature contains scant studies about integrating innovation control for outcomes at different levels. The empirical evidence is based on insights from a media company located in southern Finland. The data includes 15 semi-structured interviews with results showing that emphasis on innovation control should occur in the early phases of the innovation process and concentrate on finding best practices that support it. These early stages generate the most people-related outcomes, building the basis for organisational and financial outcomes.

**Keywords:** *innovation, innovation control, management control, people-related outcomes, organisational outcomes, financial outcomes, exploration, exploitation.*

### INTRODUCTION

Firms require innovation control in order to turn their innovation potential into value creation (through products and/or services). They need to measure and manage innovation projects and processes in an efficient and goal-oriented manner (Adams et al., 2006). Because organisations involve work, control mechanisms heavily influence individuals' environments. To stimulate creativity, the use of innovation control is often characterised by a strong ambidexterity between the strict application of measurement procedures and a high degree of freedom. Thus, organisational aspects of innovation control seem to be a promising area of research. Greater emphasis should be placed on creating innovation control processes related to the individual and the collective, with an additional focus on holistic organisational needs. The innovation literature broadly accepts three essential levels of analysis—individual, group, and organisational. However, relatively little is known about organisations' managerial means to actively develop these three levels of innovation control in practice.

Understanding how innovation delivers outcomes is paramount to managing firm innovation. The relationship between innovation control and outcomes remains challenging. Studies on innovation

control and outcomes have mainly been theoretical or survey-based, lacking an in-depth understanding of how the different methods operate in real-life contexts. This gap in the literature has resulted in a new generation of research that studies the effect of innovation on firm performance by focusing on the complexities of the innovation process as well as the channels through which innovation input is transformed into better performance (Hashi and Stojcic, 2013). Management control, especially related to innovation, can act as a tool to assist the transformation of innovation into desired outcomes. The current literature contains scant studies about integrating innovation control for outcomes at different levels. This research aims to address this research gap by investigating the mechanisms of innovation control in attaining outcomes at different levels (divided into people-related outcomes, organisational outcomes, and financial outcomes).

The paper begins with a literature review presenting prior research. The following paragraphs describe a case study built upon the theories of innovation and management control outlined in the literature review. Next, the results are presented in terms of how innovation control can assist in attaining outcomes at different levels. The final section presents conclusions for research and practice as well as limitations and suggestions for future studies.

## LITERATURE REVIEW

### *Innovation and outcomes*

A number of studies have found a positive relationship between outcomes and innovation, defined based on the degree of innovation or the scope of innovation. Historically, research on innovation types has followed a technological imperative (Damanpour et al., 2009). However, to improve performance and increase a firm's value, it is also imperative to encourage organisational innovations, defined as the introduction of new organisational methods for business management in the workplace and/or in the relationship between firms and external agents (Lloréns Montes et al., 2005; Bowen et al. 2010; Camisón and Villar-López, 2014). Laforet (2011; 2013) has found that organisational innovations result in increased productivity, profit margins, market share, market leadership, company image, and reputation; meanwhile, it also improves the working environment, employee satisfaction, and ability to operate outside the core competency. Armbruster et al. (2008) have shown that organisational innovations act as prerequisites and facilitators of efficient use of technical products and process innovations, therefore serving as sources of competitive advantage. Organisational innovations themselves impact business performance in terms of productivity, lead times, quality, and flexibility (Armbruster et al., 2008). According to Chapman (2006), innovations strongly affect financial success. The study found a strong link between collaboration and financial performance – organisations using

external sources achieve higher revenue growth than others. Klomp and Van Leeuwen (2001) discovered that innovations and innovativeness impact sales performance and productivity (measured sales/employees). On the other hand, Varadarajan (2009) points out that not only radical innovations but also incremental innovations are critical for organisations' survival, growth, and profitability. Simpson et al. (2006) have studied innovation orientation, suggesting that positive consequences of an innovation orientation relate to the following: the type, speed, number, and quality of innovations; market advantages (referring to competition and customer-related aspects); employee advantages (referring to recruitment, job satisfaction, performance, and retention); and operational excellence. However, negative consequences may also exist, including the following: producing unprofitable innovations; operating beyond a firm's core competency; taking unnecessary risks; allowing followers to copy an idea; and promoting negative employee attitudes that lead to job stress, dissatisfaction, increased turnover, and costs.

#### *Innovation and control*

Management control can be understood as systems, rules, practices, values, and other activities that company management puts into place in order to direct employee behaviour (Malmi and Brown, 2008). When these controls focus on developing innovation activities, they are called innovation control. Many prior studies have found a connection between innovation and control activities (cf., Cardinal, 2001; Chiesa et al., 2009; Chenhall et al., 2011; Bisbe and Malagueño, 2015). Chenhall et al. (2011) used a typology of controls comprised of social networking, organic innovative culture, and formal controls. They found that organic innovative culture and formal controls created direct paths to innovation, while social networking formed an indirect path to innovation through organic innovative culture. Labitzke et al. (2014) distinguished between formal and informal control mechanisms and found a positive effect of informal control mechanisms on innovation activity. However, the researchers found no significant relationship between formal control and innovation activity. Poskela and Martinsuo (2009) showed that input control is necessary for strategic renewal at the front end of innovation.

Another definition makes a distinction between diagnostic and interactive control systems. Research has found interactive control systems to be positively associated with creativity in both conservative and entrepreneurial firms (Bisbe and Malagueño, 2015). Bedford (2015) found that the effectiveness of flexible and interactive control structures depends on the particular mode of innovation pursued by the firm: they enhance performance in firms that engage in exploratory innovation, but not in exploitative innovations. Lopez-Valeiras et al. (2015) found a positive connection between interactive control systems and organisational innovations. However, they did not find interactive systems to play a moderating role enhancing the impact of organisational innovations on financial performance.

Prior research has also suggested that different types of controls are needed in different phases of the innovation process (cf., Chiesa et al., 2009; Revellino and Mouritsen, 2009). According to Chiesa et al. (2009), social controls are more diffused in the early stages, while diagnostic controls become easier to introduce and adopt as the concept crystallises, and the project moves towards commercialisation. Input, behaviour, and output controls are important for radical innovation, and the input and output controls are essential for incremental innovation (Cardinal, 2001). The characteristics of control systems may also differ between service innovation and product innovation (Aas, 2011).

## RESEARCH METHODOLOGY

### *Empirical research setting*

A medium-sized media company located in southern Finland constitutes the empirical setting. This company has several business units performing different roles in the organisation with shared and independent functions. The services and products provided include several printed newspapers; Internet services and radio; traditional supportive units, such as printing and distribution; and functions, such as IT and administration. Altogether, the company has around 270 employees. Similar to its competitors in the media business, the case company struggles with common challenges in the industry's changing business environment. The company understands that both exploitative and explorative innovations are needed for renewal and future business success; cutting costs is no longer enough to ensure survival. In this company, it is difficult to distinguish innovation activities from other types of activities, as the company does not clearly distinguish between product and service development and innovation. At the operative level, the focus and support related to innovation is strongly focused on idea generation.

### *Data*

The data consists of semi-structured face-to-face interviews with a total of 15 persons who have different roles and responsibilities. The interviewees were selected on the basis of having group or department responsibilities related to innovation and development. Their managers were also interviewed. Table 1 presents detailed information about the interviewees. Interview questions were decided on in advance; however, the themes were discussed quite informally during the interviews and were facilitated through supporting questions and researcher comments. Three researchers carried out the interviews, taking notes and making observations. Interviews were chosen, because by interviews it is possible to gain a deeper view of the topic. Validity was ensured by grounding the interview questions on a strong theoretical basis. The interviewees were selected carefully based on particular criteria. In addition, other researchers besides the author have been involved in data analysis. All of the

interviews were recorded and transcribed to enable in-depth analysis. The interviews focused on the interviewees' perceptions concerning innovation and idea generation processes as well as the organisation's measurement of these processes. Without any prompting regarding the types of outcomes attributable to innovation control, respondents used their experiences to identify both positive and negative outcomes that could arise.

	Role in the company	No. of interviews and interviewees
Case company	Unit 1 (Paper)	3 interviews, employee + 2 managers
	Unit 2 (Paper)	2 interviews, employee + manager
	Unit 3 (Paper)	2 interviews, employee + manager
	Unit 4 (Radio)	2 interviews, employee + manager
	Unit 5 (Web service)	2 interviews, employee + manager
	Unit 6 (Sales)	4 interviews, 2 employees + 2 managers

Table 4. *Background information on the interviewees*

## FINDINGS AND DISCUSSION

This research has investigated innovation control, meaning the systems, rules, practices, values, and other activities that company management puts into place in order to direct innovation activity. The study also considered its outcomes using the empirical setting of a media business company. The outcomes are analysed at three levels: people-related outcomes, organisational outcomes, and financial outcomes. Table 2 provides a summary of the findings with examples of innovation control actions in the case company and a summary of the outcomes (both negative and positive) that innovation control could generate. The following chapters discusses and elaborates upon these findings.

Based on the interviews, it became clear that no control actions should be introduced unless they have the potential to lower costs and improve future profitability. The potential for new business was also recognised as an output of systematic innovation control. On the other hand, interviewees viewed the potential for extra costs as a negative consequence of innovation control. Almost all interviewees highlighted the fact that innovation control should be systematic: the same actions should be introduced to all units and employees in order to gain positive benefits. Participants viewed innovation control as an important means to increasing sales. According to the individuals interviewed, promoting sales of current services and generating sales from new services were important determinants in attaining goals.



Examples of innovation control actions in the case company		
Creating interaction platforms for acquiring and sharing cross-functional information Involving all units in idea refinement Forming cross-functional teams linked to organisational strategy Prescribing available resources between units and functions Gathering user/customer feedback for all levels Communicating innovation efforts internally before external actions Defining measures that cover the innovation process Enabling learning throughout the company through responsible individuals		
Outcomes		
People-related outcomes	Organisational outcomes	Financial outcomes
Role clarity Activity Motivation Know-how development	Improved work atmosphere Improved functioning of internal processes Cooperation (internal or external) New service, product, or project Customer satisfaction	Cost savings Expenses Profits Sales Profitability Effectiveness

Table 5. *Summary of the findings*

Financial outcomes are a necessity, but result from other outcomes, and thus can be affected indirectly by innovation control. This finding aligns with previous studies that indicate that outcomes may not directly relate to financial measures (cf., Armbruster et al., 2008). Armbruster et al. (2008) showed that organisational innovations act as prerequisites and facilitators of efficient use of technical products and process innovations, making them sources of competitive advantage.

The benefits of innovation control cannot be tracked simply by measuring financial outcomes. A wider set of innovation outcome measures should be adopted, mainly reflecting organisational outcomes. The majority of innovation control activities in the case company related to attaining organisational outcomes. Outcomes also represent better processes of doing something. Thus, interviewees saw an improved work atmosphere and better functioning of internal processes as outcomes. Increased cooperation, either internally or externally, was one of the desired outcomes of innovation control. Because the customer eventually determines the success of the innovation efforts, customer satisfaction was seen as an important outcome of managing the innovation process efficiently. In the interviews, goal orientation was highlighted, because successful outcomes, such as new services, products, or projects, do not become ready for commercialisation overnight. They need to undergo multiple phases and threshold points before being delivered to customers.

Interviewees viewed people-related outcomes as the most challenging from the perspective of innovation control; they found it challenging to find the right combination of strict management procedures and freedom to stimulate creativity. People-related outcomes were seen as strongly dependent on employees' personalities and attitudes towards innovation. At best, innovation control can increase activity and motivation to create innovation through clearer practices. If innovation is

emphasised by adopting innovation control, it can motivate employees not only to ideate but also to develop their own know-how. The interviews demonstrated that innovation control can affect employees' role clarity by encouraging them to participate and by assisting them in recognising that innovation is everyone's task in the company.

Due to the nature of the media business, both explorative and exploitative innovation should be adopted in order to adjust to the rapidly-changing business environment. This situation creates challenges in innovation control mechanisms, because different issues are emphasised when focusing on exploitation or exploration. This finding is in line with prior research suggesting that various types of controls are needed during different phases of the innovation process (cf., Chiesa et al., 2009; Revellino and Mouritsen, 2009). When supporting exploration, freedom should be allowed in order to stimulate creativity. By comparison, in exploitative innovations, more formal mechanisms must function, as also demonstrated in Bedford (2015). He found that the effectiveness of flexible and interactive control structures depends on the particular mode of innovation pursued by the firm. In essence, such structures enhance performance in firms that engage in exploratory innovation, but not in exploitative innovation. In this research, it also becomes apparent that innovation control should be emphasised during the early phases of the innovation process while concentrating on finding the best practices to support it. The early stages generate most people-related outcomes, building the basis for organisational and financial outcomes.

## CONCLUSIONS

This research has investigated the mechanisms of innovation control in attaining outcomes at different organisational levels. By examining multiple levels of outcomes – people-related outcomes, organisational outcomes, and financial outcomes – this study reveals how innovation control assists in generating outcomes.

### *Research implications*

People-related outcomes are the most difficult to predict, because of the difficulty in finding the right combination of strict management procedures and freedom in order to stimulate creativity. Based on case study, innovation control should be emphasised in the early phases of the innovation process while concentrating on finding the best practices to support it. The early stages generate the most people-related outcomes, building the basis for organisational and financial outcomes. Financial outcomes are necessary, but participants viewed them as resulting from other outcomes, thus only indirectly affected by innovation control.

From a practical point of view, the findings suggest that the balance between exploration and exploitation in the innovation process is heavily assisted by innovation control. The avenues from fostering ideas to finished products/services must be clear; they should represent efficient and seamless paths that fit the organisation's current form and operational activities. The goals and desired outcomes can thus be more easily attained if control mechanisms are clear and aligned with the objectives.

#### *Limitations and further research*

Due to the nature of the data, there are some limitations that should be acknowledged. The research was conducted at a company operating in the media business. This specific context could limit the applicability of the results; research with a larger sample is needed to validate the results. The results are based on a single company and more research is needed to ensure the generalisation of the results. The study also faces limitations because the data comes from a single country. Country-specific characteristics should be taken into account when applying the results to practice or further studies. Despite these limitations, this research contains some interesting findings that could provide a solid starting point for further studies. In-depth case studies could be conducted to provide more insights into how innovation control is used as part of management practices at different levels. Further qualitative studies are also needed to understand the mechanisms between innovation controls at different levels.

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## THE GROWTH OF FOREIGN TOURISTS TO ISRAEL AND THEIR IMPACT ON ISRAEL'S GDP

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### ABSTRACT

This paper reviews the number of foreign tourists coming to the land of Israel starting from the 19<sup>th</sup> century until 2014, and presents an analysis of the impact of tourists on Israel's economic from 1950-2014. In this review, we show that with regard to the period from 1948-2014, the years of the State of Israel under study, the greatest increases in the annual number of tourists was from 1950 through 1973. Afterwards the growth rate of tourists coming to Israel was much lower even though the fall of the Soviet Union in 1991 led to a large supply of potential tourists to Israel. In 2013, the tourist industry in Israel measured by expenditures of tourists per capita was an average tourist sector in comparison to tourist sectors in other countries in the world. However, measured by the number of tourists per capita, then Israel's tourist sector was little below the average of tourist sectors in other countries in the world. With regard to the effect of tourist arrivals on Israel's GDP, the direct effect was around 2% in 2013, and a regression analysis of the number of tourist arrivals to Israel and Israel's GDP indicates that the indirect effect of tourists on Israel's GDP was more significant for the years 1990-2014 than for the years 1950-1990. This study show that if Israel is unable to greatly increase the number of tourist arrivals, then the tourist industry is unlikely to have a large impact on Israel's GDP in the future.

**Keywords:** *Tourism, history of tourism, the Holy Land, Palestine, Economic growth, and number of tourists.*

### INTRODUCTION

The impact of tourism on a country's economic growth is an important question for policy makers and has recently been examined by various scholars. Oh (2005) studied this question with regard to South Korea, and found that there was no long term relationship between tourism in South Korea and South Korea's GDP. However, Oh noted that other studies, as for example Balaguer and Cantavella-Jorda (2002) with regard to Spain, have found that tourism does positively impact on GDP. To explain these different results, Oh suggested that possibly the existence of such a relationship depends on the size of the tourism industry, that only in countries where tourism is large part of GDP, as in Spain, does it

generate economic growth. Massidda and Mattana (2013) studied this impact of tourism on Italy's GDP and they found a dual relationship that the growth of Italy's GDP causes tourism to Italy to increase, and the increase in tourist arrivals to Italy causes Italy's GDP to increase. This positive relationship could accord with Oh's suggestion that the economic impact of tourism is dependent of the size of the tourism industry since Italy's tourist industry is a large sector in Italy's economy. In a more recent study, Du, Lew and Ng (2016) note that other studies have found a positive relationship between tourism and economic growth, but in their study of 109 countries they did not find that investments in tourism causes economic growth. Accordingly, this question of the impact of tourism on economic growth remains unresolved and to the best of my knowledge, this question has not been investigated from a country specific perspective with regard to Israel's tourist industry.

In this paper, I will examine the relationship between tourist arrivals to Israel and Israel's GDP. I start with a brief historical review of the number of tourists who came to the land in the 19<sup>th</sup> century and the first half of the 20<sup>th</sup> century. Afterwards I will provide a detailed analysis of the number of foreign tourists who have come to Israel since the founding of the state in 1948. I will compare the growth of tourist arrivals to Israel from a worldwide perspective and present a regression analysis of the relationship between the number of arrivals of foreign tourists in Israel to Israel's GDP.

## **THE TOURIST INDUSTRY IN THE 19TH AND THE FIRST HALF OF THE 20TH CENTURY**

Due to the numerous religious sites in the country, throughout history the land of Israel has been a desired location for tourists and pilgrims of various religious faiths. However, for many years until the 19<sup>th</sup> century, there was only a trickle of tourists. Yehoshua Ben-Arieh (2007) noted that in the beginning of the 19<sup>th</sup> century there was a rediscovery of the land of Israel, and the pace of foreign travelers arriving in the land began to pick up. In the beginning of the century, various individual travelers such as Edward Clarke (1801), Ulrich Jasper Seetzen (1806/1807), John Lewis Burchhardt (1812) came to explore the biblical sites of the land. In the 1830s, when the land of Israel was temporarily ruled by Egypt (1832-1840), groups of pilgrims began to come. According to one estimate, in the 1830s there were between 5,000 to 10,000 annual visitors (Shamir 1984), and Edward Robinson and his assistant Eli Smith who visited the country in 1838 noted that due to all the visitors around Easter (1856, p. 428), "the annual Easter fair of Jerusalem is relatively not much less important, than those of Leipzig and Frankfort."

After the Crimean War (1853-1856), large number of pilgrims from Russia began to travel to the land of Israel. Bertha Spafford Vester who lived in the country from 1881-1968, provides a vivid description of these visitors (1988, pp. 86,87):

Enormous crowds of Russian pilgrims trekked through Palestine in those days and up until WWI. They began to gather in Jerusalem at Christmastime and by Easter there would be between fifteen and twenty thousand. They came on foot in large caravans... The pilgrims had little money individually, but because of their vast numbers they contributed the major part of the support of the Greek Orthodox Covenant and the Holy Sepulcher in Jerusalem and the hospices. They created a demand for all kinds of trinkets, and many kinds of industries in the manufacture of souvenirs gave occupation to the inhabitants of Jerusalem and Bethlehem. Candle-dippers worked the year round to have a supply equal to the demands of the thousands of Russian, Greek, Armenian, Coptic and Macedonian pilgrims who attended the annual celebrations of the Holy Fire.... The Russian pilgrimages that were part of life in Palestine and supported so many families ceased with WWI and the Russian Revolution.

In 1869, the same year when the Suez Canal was completed, Thomas Cook began offering his first grand tour of the Middle East, which included the land of Israel, and it is estimated that from 1869 through 1882, 4,200 tourists visited the land of Israel on tours with Cook (Hunter, 2004). In 1892, the first rail line in the country was inaugurated running from Jaffa to Jerusalem, which assisted tourists who came to the main port in Jaffa and wanted to travel to Jerusalem (Eliav, 1997, p. 266). Ruppin (1918, pp. 79,80) provides a detailed report of the economy in the lands that would become Israel, Jordan, Lebanon, and Syria prior to WWI, and he estimated that the annual value of tourists in all four areas combined was around 10,000,000 francs. Furthermore, he estimated that prior to WWI, annually around 6,000 to 7,000 European and American tourists visited Syria and the land of Israel, and based on the number of passengers on Jaffa-Jerusalem train line, he believed that around 20,000 Christian pilgrims came annually to the land of Israel.

In WWI, the British captured the land of Israel, and from 1917/1918 -1948 they ruled the country. They significantly improved the infrastructure of the country by fixing up the train lines, building new roads (from 450 km of all weather roads in 1922 to 2,640 km in 1944), a new port in Haifa (1933) and the first civilian airport in the country Lod (1937/38, renamed Ben Gurion airport in 1973). In the 1920s, the tourist industry, which had declined significantly due to the cessation of Russian pilgrims, rebounded. In 1926, there were 52,000 tourists, and it was estimated that they contributed more than £ 1,000,000 to the economy (Goldwater, 1928, pp.1,2, and Report by His Britannic Majesty's Government for the year 1926, pp. 1,2). The tourist industry stopped growing with the Great Depression and the Arab revolt (1936-1939), but it also did not decline that much as it is estimated that from February 1937 to January 1938, 50,100 foreign tourists came to the land of Israel and their expenditures were around £ 500,000 (Gaathon, 1978, p. 196).

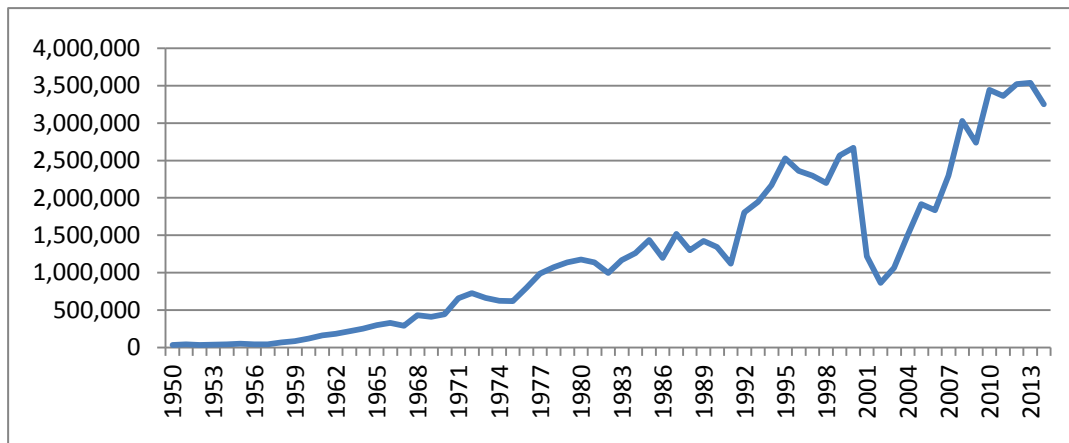
## TOURISM IN THE STATE OF ISRAEL, 1948-2014

In 1948, the State of Israel was founded, and the government agency, Israel's Central Bureau of Statistics (CBS, 2016) provides annual data for the number of tourists from 1948 onwards (data for all years in Table 1, and below Table 1 is a graph of the data). The date includes all tourists who came to Israel, even if they stayed for just one day and/ or came on cruise ships.

Table 1.		Number of tourists coming to Israel			
Year	Tourists	Percentage change	Year	Tourists	Percentage change
1948	4,533		1982	997,510	-12.27
1949	22,208	389.92	1983	1,166,820	16.97
1950	33,122	49.14	1984	1,259,228	7.92
1951	39,398	18.95	1985	1,436,374	14.07
1952	34,311	-12.91	1986	1,195,909	-16.74
1953	37,085	8.08	1987	1,517,575	26.90
1954	39,390	6.22	1988	1,298,944	-14.41
1955	49,899	26.68	1989	1,424,524	9.67
1956	42,615	-14.60	1990	1,341,719	-5.81
1957	42,342	-0.64	1991	1,118,025	-16.67
1958	68,100	60.83	1992	1,805,201	61.46
1959	85,104	24.97	1993	1,945,999	7.80
1960	117,662	38.26	1994	2,168,488	11.43
1961	159,624	35.66	1995	2,530,619	16.70
1962	183,701	15.08	1996	2,360,791	-6.71
1963	218,460	18.92	1997	2,295,434	-2.77
1964	251,624	15.18	1998	2,200,002	-4.16
1965	296,493	17.83	1999	2,565,953	16.63
1966	328,077	10.65	2000	2,671,957	4.13
1967	291,168	-11.25	2001	1,218,800	-54.39
1968	431,966	48.36	2002	862,200	-29.26
1969	408,974	-5.32	2003	1,063,400	23.34
1970	441,294	7.90	2004	1,505,700	41.59
1971	656,756	48.83	2005	1,916,000	27.25
1972	727,532	10.78	2006	1,833,851	-4.29
1973	661,651	-9.06	2007	2,295,600	25.18
1974	624,727	-5.58	2008	3,028,000	31.90
1975	619,554	-0.83	2009	2,738,300	-9.57
1976	796,598	28.58	2010	3,443,900	25.77
1977	986,534	23.84	2011	3,362,000	-2.38
1978	1,070,813	8.54	2012	3,520,400	4.71
1979	1,138,622	6.33	2013	3,539,700	0.55
1980	1,175,819	3.27	2014	3,251,100	-8.15
1981	1,137,066	-3.30			



Graph of the number of incoming tourists to Israel 1950 – 2014



In 1948 there were 4,533 tourists and in 1950 the number increased to 33,122. By 1955, the number returned to the pre-WWII level, 50,000 and then in both 1956 and 1957, there was a fall in tourists which probably was due to the 1956 war (October and November) in the Sinai between Israel and Egypt. In 1958, the number of tourists increased 61%, the second largest increase for all the years from 1950-2014, and for the following eight years, 1959-1966, the number of tourists increased every year by more than ten percent. In the midst of this growth, in 1960, the number of tourists passed the one hundred thousand mark, 117,662, and in 1961, the country's national air carrier, ELAL, began to offer non-stop flight from New York to Tel Aviv (Lod airport).

In June 1967, there was the Six Day War between Israel, Egypt, Jordan and Syria, and the number of tourists for the year declined by 11%. The aftermath of the war was that new and old city of Jerusalem was re-united and the religious sites in the old city of Jerusalem came under Israeli rule. Possibly due to this reason and Israel's success in the war, tourism jumped in the five years after the war from 291,169 in 1967 to 727,532 tourists in 1972, an annual increase of 20%.

From the founding of the state of Israel until 1972, the Israeli economy had one of the best growth rates in the world, with its per capita GDP growing at an annual rate of 5.67% for the years from 1950-1972, the seventh highest growth rate in the world (Schein, 2007). This all came to an end with the Yom Kippur War in October 1973. After the war the Israeli economy entered a period of low growth, as from 1972 to 1989, per capita GDP only increased at an annual rate of 1.41%. In the period afterwards, 1990-2014, there was some improvement in the growth rate, as per capita GDP increased at an annual rate of 1.93%, but after the Yom Kippur War, the Israeli economy never grew like it had prior to the war. This same pattern by the economy was also true of tourist arrivals to Israel.

In the first few years after the Yom Kippur War, 1973, 1974, and 1975 the number of tourists declined in each year. This trend was reversed in 1976. From 1976 through 1980, the rate of tourists increased each year, and in 1977, the number of tourists passed the one million mark 1,070, 813. In the decade of

the 1980s, the number of tourists increased some years (1983, 1984, 1985, 1987, and 1989) but declined in the other years, and by the end of the decade in 1989, there were 1,424,524 tourists.

There were two years of declines in the rate of tourists in 1990 and 1991. Most likely, the decline in 1991 was due to the Gulf war in January and February 1991, when Iraq attacked Israel with missiles. 1992 was a very positive year for tourists in Israel, as the year had the highest increase in tourists, 61.5%, for the years 1950-2014. Tourist arrivals continued to grow in the ensuing three years and passed the two million mark in 1995 (2,530,619). In the following three years, 1996, 1997 and 1998 the number of tourists declined each year. In 1999 and 2000, there were two years of growth, and then very large falls in 2001 (-54%) and 2002 (a further decline of 29%). By 2002, the number of tourists had fallen to 862,200, the lowest level since 1976. These gyrations from 1996-2002 were due to the changing prospects for peace between Israel and the Palestinians. When the peace process was looking positive there were increases in tourism, and when the prognosis for peace was declining, then so too were the number of tourists (Schein, 2003). Thus, the large fall in tourists in 2001 and 2002 was during the *intifada* when there were a large number of terrorist attacks in Israel. Along with the drop in tourists, the *intifada* also caused Israel to enter a recession.

In the middle of 2002, the *intifada* slowly began to wind down, and the Israeli economy began to recover. Tourists also returned, and initially there was excellent growth as part a "catch-up" from the years of the *intifada*. In 2003, the number of tourists increased 23%, in 2004, another 42%, and in 2005 another 27%. In 2006, the rate of tourists declined 4%, which most likely was because there was a war between Israel and Hezbollah in the summer.

In 2007, there was a change in way that tourists were recorded by the CBS. Starting in 2007 due to change in visa regulations, the CBS started to publish data on tourists in three categories, tourists for more than a day, tourists who only stay for a day but not on a cruise ship and tourists who come for a day on a cruise ship. Based on the total of the three categories, all tourists, 2007 and 2008 were good years for the tourism sector as in 2007, the number of tourists increased 25% and in 2008, another 32%. In 2008, the number of tourists passed the 3 million mark, 3,028,000. In 2009, due to the worldwide recession because of the collapse of Lehman Brothers in September 2008, the number of tourists coming to Israel declined by 10%. This was just was a temporary blip, as 2010 was another strong year for tourism in Israel with a 26% increase in tourists, but then in 2011 there was a small decline of 2%. In 2012 and 2013 there were small increases, 5% and 1% respectively, and then in 2014 there was a decline of 8%, due to the war between Israel and Hamas in the summer of 2014.

Overall, the annual growth in tourists from 1949 to 2014 was 7.97%, and from 1955, when the number of tourists returned to the pre-WWII numbers, to 2014 the growth rate was 7.34%. With regard to the various decades: In the 1950s, the annual growth rate of tourist arrivals was 14%, in the 1960s, 17%, in

the 1970s, 11%, in the 1980s, 2.3%, in the 1990s, 6%, in the 2000s, 0.7% and the first half of the 2010s, 3.5%. We see that the best growth in tourism was from 1950-1979 (14% annual growth), while for the period from 1979-2014 (3% annual growth), the rate of growth fell significantly. If we divide the years to before and after the Yom Kippur War, then the distinction is very similar, as from 1950-1973, the annual growth of tourists to Israel was 14%, while from 1973-2014, the annual growth was 4%.

In addition to the change in growth rates, there was also a change in the composition of tourists partly due to the fall of the Soviet Union in 1991, which enabled numerous tourists to come to Israel from Russia and other countries that had been under Soviet control and who had been unable to travel to Israel before the break-up of the Soviet Union. In 1970, the largest source of tourists was from the United States, 39% of tourists, followed by France, 11%, the UK, 9%, and then Germany and Canada with 4% each. In 1990, the US was still the largest source of tourists but its percentage had fallen to 23%. The percentage of tourists from Canada also declined (3%), while the percentage of tourists from France (11%), the UK (11%) and Germany (9%) stayed even and even increased a little bit. By 2014, only 19% of tourists were from the US, 9% were from France, 5% were from the United Kingdom, 5% were from Germany, and 2% were from Canada. These reductions in percentages were because in 2014, tourists from Russia constituted 17.5% of the tourists, from the Ukraine another 4.2% and Poland 2.4%. These numbers indicate a return in some sense to the situation in the 19<sup>th</sup> century when Russian pilgrims were the majority of tourists in the land of Israel.

## **A COMPARISON OF ISRAEL'S TOURIST INDUSTRY FROM AN INTERNATIONAL PERSPECTIVE**

The World Bank ([www.worldbank.org](http://www.worldbank.org)) presents data on incoming tourists for most countries of the world from 1995 to 2013. Their data for Israel excludes day visitors, which means that their numbers differ from the numbers in table one, which includes these tourists. According to the World Bank's data, as of 2013 Israel still had not passed the three million level, and 2013 was the year with the most tourists (2,962,000).

We can compare the growth rate of tourists in Israel and the rest of the world with the World Bank data. According to the World Bank data the annual growth rate of tourists in Israel for the years 1995-2013 was 1.63%. (According to the CBS data, the growth rate of tourists coming to Israel was 1.9% for the period.) This rate was well below the world growth rate of 4.05% for the period. Of the 153 countries for whom the World Bank provides data for the years 1995 and 2013, 126 had greater increases in the number of tourists than in Israel, and only 26 had a lower growth rate than Israel.

The World Bank divides countries into several different categories based on their income levels. For the period 1995-2013, the rate of growth of tourists to low income countries was 7.58%, to lower

middle income countries, 8.42%, to upper middle income countries, 5.69% and to high income countries, 3.10%. According to the World Bank, Israel is classified as a high income country, and its growth rate of tourists, 1.63%, was lower than the average for its category.

If we narrow the years of comparison to the last five years of the data, 2008-2013, when the level of Israel's tourists had recovered from the *intifada* (2,416,800 tourists in 2000 vs. 2,559,600 in 2008, World Bank data), then Israel's growth in comparison to the world improves slightly to 2.86% annually. This still was less than the growth rate in the world, 3.19% for the period, but it was practically equal to the growth rate of tourists in high income countries, 2.88%.

We can also compare the number of tourists on a per capita basis, that is how many tourists does a country have in comparison to the country's population. This figure gives some measure of the relative importance of tourism to the country's economy. Based on the World Bank data (for number of tourists and population), in 1995, Israel's per capita level of tourists was 39.9%. This number was higher than the ratio for high income countries (33%), higher than for 118 countries and lower than only 56 countries. For the period from 1995-2013 there was a slight decline in Israel's tourists per capita as in 2013, the ratio decreased to 36.8%. Furthermore, in 2013 Israel's ratio of per capita tourists fell below the level for high income countries (51%), and there were more countries in the world (93) with a higher ratio than Israel than countries with a lower ratio (85) than Israel. This decline in per capita tourists might indicate that despite benefiting from a new group of tourists from the former Soviet Union, still relatively Israel's tourist industry developed less than many countries in the world for the period 1995-2013. However since Israel has a relatively high rate of population growth, then this decline of per capita tourists could just be indicative of the faster population growth.

A different way to measure the importance of the tourist sector to an economy is not by tourist arrivals but by expenditures by tourists. The World Bank provides data on international tourism receipts in current USD for the years 1995-2013, and if we divide the figure by a country's population, then we have per capita receipts from tourists per country. For Israel, this figure was \$630 in 1995 and it increased to \$801 in 2013. In 2013, this number was a little higher than the average for the high income countries (\$732), was higher than for 121 countries, but less than the figure for 56 countries. This indicates that in 2013 Israel's tourist industry in comparison to its economy was roughly similar to economies in its income bracket, and in the top third of countries in the world. Based on the data from 2013, this measure improves Israel's tourist industry's standing in comparison to the tourist industry in other countries in the world relative to the measure of per capita tourists, where Israel's tourist sector fared poorer in comparison to other countries.

## REGRESSION ANALYSIS OF TOURIST ARRIVALS IN ISRAEL AND ISRAEL'S GDP

The tourist sector can impact an economy in two different ways. One, there is the direct measure through the spending of tourists, which counts as exports in the GDP accounting. The second method is the indirect effect of tourism on other sectors in the economy, such as construction and manufacturing. This indirect effect is harder to measure but potentially more important since if these indirect effects exist then the tourist sector can function as a driver to the economy as a whole in addition to impacting on industries that sell directly to tourists. We will review Israel's tourist receipts, and then offer some econometric evidence as to the indirect effect of tourism in Israel.

The World Bank calculates the receipts from tourists as a percentage of exports for the years 2005-2013 for most countries in the world. In 2005, the receipts from tourists to Israel were 6% of Israel's exports and according to Israel's CBS (2015), exports were 34.9% of GDP, which together implies that spending by tourists contributed to around 2.1% of Israel's GDP in 2005. In 2013, the receipts from tourists to Israel as a percentage of Israel's exports had risen slightly to 6.6%, and exports had fallen slightly to 34.5% of Israel's GDP, which together mean that spending by tourists' contribution to Israel's GDP rose slightly to 2.3%. This suggests that Israel's tourist sector has a small role in its economy. In reference to the world, in 2013 Israel's ratio of receipts from tourists as a percentage of exports was a little higher than the average of high income countries (6.2%), was higher than for 63 countries, but lower than for 89 countries. This indicates that the importance of Israel's tourists relative to its exports is roughly average in the world.

We now present econometric evidence of the importance or lack thereof of Israel's tourist sector on its GDP and here the goal is to get some indication of the indirect effect of Israel's tourist sector on its economy. I ran simple OLS regressions using SPSS for various time periods: 1950 – 2014, the complete data from the founding of the State of Israel to the latest available data, and then divided the data into three smaller periods based on different periods of growth in Israel's economy, 1950-1973, 1973-1990, and 1990-2014. The regression equation is

$$GDP_t = \alpha + \beta (AR_t) + \varepsilon_t$$

GDP is the annual percentage change in GDP (prices 2010) from CBS data (2015) and the independent variable, AR, is the annual percent change in total number of tourist arrivals to Israel. This data is also from the CBS and is in Table One. (I also ran a second set of regressions where the independent variable was tourists for more than one day, but the results were very similar to the regression with the total number of tourists, AR, so they are not presented here.) Table Two below presents the results from the different regressions:

Table 2	Econometric results				
	Dependent variable: Percentage change in GDP				
Years in regression	Independent variable (not including constant)	Coefficient on the independent variable	Standard error of the coefficient	t value of the coefficient	Adjusted R squared of the regression
1950-2014	All tourists	0.076	0.029	2.619	0.085
1950-1973	All tourists	0.075	0.066	1.137	0.013
1973-1990	All tourists	-0.023	0.028	-0.833	-0.018
1990-2014	All tourists	0.042	0.019	2.267	0.147

## DISCUSSION OF REGRESSION RESULTS

In the all the regressions, the adjusted R- square is very low, which should be expected since there are many factors that influence the changes in GDP. However, the crucial issue is the significance of the coefficient, and here we see that significance was not consistent for the four different periods. For the overall data, the period from 1950-2014 the coefficient on the variable was significant and the correct sign. The coefficient itself is also small. Altogether, this implies that the number of tourists coming to Israel have a small but significant effect on Israel's economy. However, for the periods 1950-1973 and 1973-1990, the coefficient was very insignificant, and for the period from 1973-1990, it was even the incorrect sign. Only in the last period of 1990-2014, was the coefficient significant and also the correct sign.

These results imply that the tourist arrivals in Israel had their most significant impact on Israel's GDP in the most recent period of 1990-2014. This result is somewhat surprising since, as discussed above, the period of 1950-1973 had the greatest growth in tourists. Yet, in the period from 1950-1973, the growth of Israel's GDP was much greater than from 1990-2014, and then the lower rate of tourist arrivals had a greater impact on the lower growth rate of GDP. In any event, the changes in the significance of the number of tourist arrivals in the four regressions means that the regression results are not robust, and calls into question even the strong significance of the coefficient in the first and last regressions. Following Oh's suggestion (discussed above), it could be that the number of tourists only impact on a country's GDP when there is a certain threshold level of tourists, and maybe Israel only reached this level in the most recent period of its history. Or, maybe the regression results of the first and last regressions are just indicating a correlation between tourist arrivals in Israel and Israel's GDP with no causality. This is a question for further research to examine and to better identify the relationship between the number of tourists coming to Israel and their effect on Israel's GDP.

## CONCLUSION

This paper has reviewed the growth in the number of tourists coming to the land of Israel from the 19<sup>th</sup> century to the present. The number of tourists have grown during the entire period, but the best rate of increase was the period from 1950-1973. Afterwards, from 1973-2014, the trend was positive, but the growth was uneven, and overall the growth rate of tourist arrivals declined. During this period of lower growth, from 1995-2013, the growth rate of tourists coming to Israel was also less than the growth rates for most countries in the world. In 2013, based on expenditures by tourists per capita Israel's tourist sector was roughly average to tourists sectors in other countries, but based on tourists per capita, the sector was on the weaker side in the world. Finally with regard to the impact of the number of tourists on Israel's GDP, the direct effect of tourist arrivals in Israel was around 2% of Israel's GDP in 2005-2013. The indirect effect as measured by the regression results are somewhat contradictory as overall from 1950-2014 there appears to be a positive relationship, but when the data is broken down into smaller periods, then only in the period from 1990-2014 is there a positive relationship between tourist arrivals and Israel's GDP.

The review here indicates that there is potential for Israel to increase its tourist sector by attracting more tourists if it can return to its growth rate of tourist arrivals from before 1972. If Israel could return this level of growth of tourist arrivals, then this would likely add a little bit to Israel's economic growth. Yet, as noted in our review of tourism in Israel, in many years there were decreases in tourists due to wars and the *intifada*, which means that it will be a difficult task for Israel to significantly increase the number of tourists as long as the security situation in Israel is uncertain. One can only hope that some peace agreement between Israel, the Palestinians and the surrounding Arab nations can be reached, and then one would expect a large increase in the number of tourists coming to Israel. If this does not happen, then it is unlikely that the number of tourists will grow significantly, and in turn the economic impact of the tourists will be relatively minor to Israel's economic growth.

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## WHAT IS RESPONSIBLE – WHAT IS IRRESPONSIBLE LEADERSHIP IN LUXEMBOURG?

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EVAtraining Luxembourg

### ABSTRACT

The purpose of this study is to determine first what is responsible, second what is irresponsible leadership in Luxembourg, and third what is typical for Luxembourg? 51 semi-structured interviews were conducted in English, French, German, Luxembourgish, and Italian among four different categories, notably: 1) Lux.Nat. (Luxembourgers with Luxembourgish Nationality), 2) Lux.Foreigner (foreigners who reside in Luxembourg), 3) cross-borderers (people who come to work to Luxembourg every day from Germany, France, and Belgium), and 4) the rest of the world (World). The following results were found: Responses from all four categories were similar on the one hand and quite contradicting on the other. Respondents showed sound knowledge of the subject, and mentioned how Responsible leadership spans three areas: first the ecological, second the social and human, and third the economic/business area, and are long- or short-term oriented. Irresponsible leadership is exactly the contrary: lack of respect, abuse of people, bullying, degrading the environment, etc. Typical for Luxembourg is the multicultural, multilingual and diverse people, the beautiful countryside in the middle of Europe, the trilingual education system, but also its limitations in resources given its small size and its nepotism. Some interview citations and one case study are reprinted. Conclusion, discussion, implication, limitations and future research follow.

**Keywords:** *Responsible leadership, cross-cultural management, education, international business, Hofstede, multiculturalism, trilingual education system, management and language, Luxembourg*

### 1 INTRODUCTION

The purpose of this research is to discover what is responsible and what is irresponsible leadership in Luxembourg? 51 semi-structured interviews were performed among four categories, notably: 1) Lux.Nat. (Luxembourgers with Luxembourgish Nationality), 2) Lux.Foreigner (foreigners who reside in Luxembourg), 3) cross-borderers (people who come to work to Luxembourg every day from

Germany, France, and Belgium), and 4) the rest of the world (World). Respondents were asked 1) What is responsible leadership in Luxembourg? 2) Please name some examples, 3) What is irresponsible leadership in Luxembourg? 4) Please name some examples, and 5) What is typical for Luxembourg?

Following this introduction, this paper will first briefly review the extant literature on Responsible Leadership, and then describe Luxembourg's linguistic and cultural peculiarities, and presenting with a hypothesis. Chapter 2 will describe the applied method: semi-structured interviews. Chapter 3 will present the results from the four different categories of respondents, some interviews will be reprinted entirely, some partially, and one case study will be completely represented. Chapter 4 is for conclusion, discussion, and implication, research limitations and further research opportunities. References will conclude this research.

## 1.1 RESPONSIBLE LEADERSHIP

"There is only one irrefutable definition of a leader: someone people follow. Therefore, leadership is a relationship between the leader and the led. Unlike management, the leadership relationship cannot be delegated or automated" (Maccoby, 2011).

Responsible leadership is defined as being "about making business decisions that, next to the interests of the shareholders, also takes into account all the other stakeholders such as workers, clients, suppliers, the environment, the community and future generations" (The Financial Times, 2015).

Stückelberger and Mugambi (2007) split 'Responsible Business Leadership' into 5 aspects: 1) in general, 2) economically, 3) socially, 4) politically and 5) environmentally.

Responsible leadership has increasingly been a topic of interest in recent years, looking into topics like 'organizational culture' (Schein 2009, 2010), 'strategic intelligence' (Maccoby, 2015), 'raising performance through uplifting leadership' (Hargreaves et al, 2014), 'stakeholders' (Maak, 2007; Maak and Pless, 2006), and 'narcissistic leaders: who succeeds and who fails' (Maccoby, 2007). Northouse (addresses the subject through different types of approaches: the trait approach, skills approach, style approach, situational approach, contingency theory, path-goal theory, leader-member exchange theory, transformational leadership, servant leadership, authentic leadership, team leadership, psychodynamic approach, women and leadership, culture and leadership, and leadership ethics.

Here some questions responsible leaders might wish to consider (Financial Times, 2015): "1. Are your business activities sustainable and are not polluting the surrounding environment?

2. Do you identify systemic risks that your activities might contribute to, or do you take short term risks for quick profits that could endanger the reputation of your company?

3. Do you care about the welfare of your workforce?

4. Have you checked that your subcontractors do not use child labour?", or: to ask with the words of Alan Murray (2010): "What makes a great leader?"

This will be examined in the following chapters.

## 1.2 LUXEMBOURG

Luxembourg is a parliamentary democracy and a constitutional monarchy, it is the only remaining Grand Duchy in the world. As of 1<sup>st</sup> of January 2015, Luxembourg's total population consisted of 563,000 inhabitants of whom 304,300 (54.05%) were Luxembourgers and 258,700 (45.95%) were foreigners (statec, 2015), these included 92,100 Portuguese, 39,400 French, 19,500 Italians, 18,800 Belgians, and 12,800 Germans, see <http://www.statistiques.public.lu/stat/TableViewer/tableView.aspx>. The cross-borderers are typical for Luxembourg's employment situation. Domestic employment was at 395,200, comprising 164,900 cross-borders (41.73%): 81,300 from France, 41,900 from Belgium, and 41,700 from Germany. Luxembourg's motto is: '*Mir wëlle bleiwe, wat mir sin*' ['We want to remain what we are'] Luxembourg is one of the smallest countries in Europe with a total size of only 2,586 km<sup>2</sup>. It is 82 km long and 57 km wide and has borders with Germany (138 km), with France (73 km), and with Belgium (148 km) (The World Factbook). The language situation is anchored deeply in the country's history (Schinzel, 2013): there are three official administrative languages: French, German, Luxembourgish (statec, 2015); Luxembourgish being the national language (Lëtzebuergesch). The public education system is tri-lingual: the instruction language in Kindergarten is Luxembourgish, being replaced by German as language of instruction in primary school and then gradually replaced by French in secondary school (Kraemer, 1995; Schinzel, 2014a; 2014b; Weber and Horner, 2008). Citizenship is only awarded to those who speak Lëtzebuergesch (Spizzo, 1995).

The language defines the in-group (Briley et al. 2005) and the out-group. Those who speak Luxembourgish are part of the in-group and those who do not speak the language are part of the out-group (Schinzel, 2014).

The author replicated Geert Hofstede's cultural dimensions' study in Luxembourg and compared the findings with Hofstede's estimates. Luxembourg's specific cultural environment is characterized by low Power Distance (PDI=29), high Uncertainty Avoidance (UAI=95), low Individualism = high Collectivism (IDV=34) (COL=66), medium Masculinity (MAS=54), high Long-Term Orientation (LTO=65), medium Indulgence versus Restraint (IVR=55), and low Monumentalism (MON=24).

Table 1 (Schinzel, 2015; 2015a) shows Hofstede's (2001) and Hofstede et al. (2010) cultural dimensions of Lux.Nat. and Lux.All., Hofstede's estimates on Luxembourg, his data for France, Germany, the UK, Belgium FR, Belgium NL, Italy, the Netherlands, China, the USA, and Japan, where the cultural differences become clear.

**Table 1 Cultural Comparisons: The author's Luxembourg, Lux.Nat. in comparison with Hofstede's UK – Belgium FR – Belgium NL – Italy – the Netherlands NL – China –USA – Japan (on a scale from 1-100, 1 being the lowest and 100 the highest score)**

	The author's Lux.Nat.	The author's Lux.All.	Hofstede's estimates on Luxbg	Hofstede's France	Hofstede's Germany	UK	Belgium FR	Belgium NL	Italy	NL	China	USA	Japan
PDI	29	36	40	68	35	35	68	61	50	38	80	40	54
UAI	95	97	70	86	65	35	93	97	75	53	30	46	92
IDV	34	51.5	60	71	67	89	71	78	76	80	20	91	46
MAS	54	47	50	43	66	66	60	43	70	14	66	62	95
LTO	65	69	64	63	83	51	82	82	61	67	87	26	88
IVR	55	53.5	56	48	40	69	57	57	30	68	24	68	42
MON	24	10	-	16.5	9.9	35.4	-	-	35.2	11.9	0	57.2	4.0

The author makes the following hypothesis:

*What is 'Responsible leadership' depends mainly on the respondent's cultural dimensions and his/her value system.*

## 2 METHODS

Semi-structured interviews were carried out during summer and fall 2015. Respondents were from the four categories: Lux.Nat. (19), Lux.Foreigners (15), Cross-Borderers (6) and the rest of the World (11). Interviews were carried out in Luxembourgish, English, French, German, and Italian. They were in person, by phone, via skype or email exchange and lasted between 15 minutes and 2 hours. For confidentiality reasons, interviews were not taped, nor recorded or filmed. In-depth notes were taken during the interviews. After the interviews, the respondents were presented the summary of the interview and their consent was asked. Interviews in Luxembourgish, French, German, Italian or Spanish were translated into English.

## 3 RESULTS

The author performed a total of 51 semi-structured interviews with business men and women in companies in the four categories 1) Lux.Nat., 2) Luxembourg Foreigners, 3) Cross-Borderers, and 4) the rest of the world were interviewed. The language of the interviews was Luxembourgish, German, French, Italian and English. Interviews were held in person, on the telephone, via skype and via email conversation, and lasted between a maximum of two hours and a minimum of 15 minutes. In the following, the author analyzes the data from the 51 interviews. This total of 51 semi-structured interviews can be divided into the four categories as follows: 19 Luxembourgers with Luxembourgish

nationality (Lux.Nat.), 15 foreigners living in Luxembourg, 6 Cross-Borderers, and 11 respondents from the rest of the world. Among the 15 foreigners living in Luxembourg were 6 French, 5 Italians, 2 Germans, 1 Portuguese, 1 Dutch, 1 Belgian. The Cross-Borderers live in the neighboring Germany, France and Belgium and come from Germany (4), the UK (1), and the Netherlands (1). The rest of the world comprises diverse countries such as Germany (3), the UK (2), Italy (1), Poland (1), Israel (1), Bosnia (1), Russia (1), USA (2), Australia (1), NZ (1), Sweden (1) and Bulgaria (1). Four people have double nationality: French + Dutch, German + Dutch, German + Luxembourgish, and German + Bosnian.

The 51 respondents have the following native languages: Luxembourgish (18), French (11), English (6), Italian (5), German (5), Portuguese (2), Dutch (2), Russian (1), Hebrew (1), Bosnian (1), Bulgarian (1), Swedish (1), and Polish (1).

Out of the 51 respondents, 5 people have 2 mother tongues: French + English (2), French + Dutch (1), French + German (1), Swedish + Bulgarian (1). 1 respondent speaks seven languages, 2 speak 6 languages, 8 speak 5 languages, 17 speak 4 languages, 14 speak 3 languages, 5 speak 2 languages, and only 4 respondents speak just one language (1 French, and 3 English).

As a summary of the language analyses, it could be said: most Lux.Nat. speak Luxembourgish, German, and French; unfortunately English is a bit neglected. Most French speak just French, some with some English. The Portuguese living in Luxembourg are multilingual, speaking Portuguese, Luxembourgish, German, French, and some English. In general, respondents from the English speaking world only speak English, without any foreign language knowledge.

In total, the 51 respondents come from 15 different countries and speak 19 different languages. The migration background can be described as follows: there is a migration stream from the rest of the world to Luxembourg, especially from Europe and more precisely from the neighboring countries Germany, France and Belgium. Apart from this migration, these populations also represent the category of the Cross-Borderers.

The respondents' age categories are as follows: age 0-19 (0), age 20-24 (0), age 25-29 (3), age 30-34 (4), age 35-39 (8), age 40-49 (11), age 50-59 (19), and over age 60 (6).

Concerning gender: 25 of the respondents were males (49%), 26 females (51%).

The education level of the respondents is as follows: A-level (1), professional education (3), undergraduate degree (4), master's degree (18), the French Bac+5 (2), doctorate (12).

The industry sector of the respondents is: Bank+Finance (12), Education (12), Tourism (5), Food industry (5), Medicine (4), Law (3), Publication+Journalism (3), Construction (2), Civil Servant (2), Human Resources (2), Petrol industry (1), Politics (1), and Telecom (1).

### 3.1 RESULTS INTERVIEWS: Category Lux.Nat.:

#### 3.1.1 The question: “What is responsible leadership in Luxembourg” was answered by Lux.Nat. as follows:

“Responsible leadership for us is divided in three categories:

- 1) ecological responsibility
- 2) social and human responsibility
- 3) economical and business responsibility.

We have our values, also to be found on our website. Ecological: We invest in nature and environment, by buying forests and planting trees. We instruct children where milk comes from and re-implant bees. We educate the children of this country to guarantee the continuity of the Grand Duchy. We invest in renewable energy, our products are not thrown away, but recycled or given away to charity, Red Cross and sports clubs, other clubs and/or associations. We support different associations and clubs with sponsorship. We invest in local companies, in local producers, in local people, in our local environment. And we preserve our nature.”

“We have an ‘environment certificate’ ([www.petro-center.lu](http://www.petro-center.lu)). Our waste is collected separately, coffee pads, paper, batteries, used oil, even chewing gum in a separate container and treated by specialized companies. Environment friendliness is key with us and all of our subsidiaries are upgraded to our standards, especially when we overtake another site.”

A responsible leader knows his/her business, his/her profession, his/her job. He/she has knowledge of his/her job and is capable of transmitting his/her knowledge, and motivating his/her people.

A responsible leader works a lot, he/she is interested in his/her people, their work and their persons, he/she helps always in every situation, he supports his/her people always.

A responsible leader is a person that we can trust in, on whom we can count, in every moment.

A responsible leader treats his staff in a fair way: he puts his employees in the foreground.

Social and human responsibility:

He/she pays his people well. But a good salary is not everything.

He/she provides best possible work conditions; adaptable working hours; care for workers’ children and their education; language courses for his/her employees; education/training for his/her employees; financial participation in the company’s profits.

Mutual trust and respect is key.

There is a work environment of ‘mutual respect’ towards colleagues, customers,... basically everybody.

He/she provides good work; asks their opinion about problems; assistance in every situation; is always in good mood; preserves the national interests of the country and the people; transmits his/her knowledge to his people to educate the future leaders the country needs. "I was first in internship here, then offered a full contract, this is responsible leadership for me, to educate the future specialists the country needs to guaranty the continuity of our company and of our Grand Duchy".

"Responsible leadership is, in my view, a leadership that preserves the national interests of the country and its people, places itself in the tradition and historic continuity of Luxembourg, acts internationally in a way to assure and enhance the security and economic welfare of the country, preserves and strengthens national sovereignty and insists on the preservation of high moral and ethical standard in all political fields, including scientific and technical progress."

Ecological responsibility: He/she is an example for the protection of environment; He/she supports energy conscious production; He/she promotes of alternative energy sources; He/she promotes minimization of waste.

Security responsibility: He/she emphasizes security in the company: he/she provides security training; He/she reduces accidents / the probability of accidents.

Economical / business responsibility: Profit is not key; Of course: a company's objective is to make profit. But profit is not everything. In difficult times, profit could be reduced and employees' satisfaction emphasized, without layoffs.

Citation from a dentist:

"13 years ago, one of my assistants got an offer from another dentist, offering her a 50% salary increase. I explained to her that I am not willing to increase her salary to make her stay, especially because of the way I am working: 1 chair and on average 1 patient every 20-25 minutes. But I understood that she had to quit for such a tempting offer. .... About 1 ½ years (and one pregnancy) later: she was back! Too much stress, as the other dentist works at 5 chairs in parallel, unhappy employees, and a weekly work amount of 50 hours, having to stay late until 9pm. For her family life this was not ideal. Result: she came back to me, and she still works for me happily, because I give her time off when her child is out of school, on some days of the week, of course she has to renounce the high salary, but compensates this loss with a better life quality."

Responsible leadership consists of two aspects:

- 1) a time aspect: long-term orientation or short-term orientation
- 2) a multi-orientation aspect: not only monetary profitability but also other aspects: social, human, environment, reputational, of the country in general.

### 3.1.2 The following examples for responsible leaders were given by Lux.Nat.:

“Me, I hope”; “My partner/colleague”; “My boss”; “I cannot think of anybody”; Barack Obama; Pope Franziskus; [www.cactus.lu](http://www.cactus.lu); [www.luxlait.lu](http://www.luxlait.lu); [www.luxair.lu](http://www.luxair.lu); [www.petro-center.lu](http://www.petro-center.lu); Gaston Vogel, lawyer who dares telling the truth; Firma Heinen in Bech-Maacher at the Mosel.

Former Prime Minister Pierre Werner: “One of those responsible leaders was former Prime Minister Pierre Werner who established the financial center in the 70s, bringing the number of banks from 30 to 168 in the 90s as well as launching the first SES satellite making Luxembourg one of the most important TV programs provider in the world. The space occupied in the cosmos by Luxembourg exceeds by far the surface of our territory on Earth.”

Former Grand-Duchess Charlotte: “An outstanding example of a responsible leader remains Grand-Duchess Charlotte, who took the wise decision to leave her country and go into exile when Germany invaded Luxembourg in 1940. This was of paramount importance for maintaining the existence of a sovereign Luxembourg.”

“I cannot name you anybody, because I cannot copy any leadership, because my leadership depends on my personality. I am myself. There are leaders who are natural leaders, and there are people who will never be leaders, whatever they try. Either you are captain or you aren’t.”

### 3.1.3 The question: “What is irresponsible leadership in Luxembourg” was answered by Lux.Nat. as follows:

Irresponsible leadership is exactly the contrary of what was said under the point ‘responsible leadership’. It is irresponsible when somebody is not interested in his people, always arrives late, leaves earlier, and when he/she doesn’t speak the languages, is egoistic, tyrannises his/her people, is bullying his/her people, praising one, but denigrating all the others.

“Irresponsible leadership would be an abandonment of our national sovereignty, a sinister plan that was revoked by a 78,02% NO vote by our people on June 7 2015.”

“A leadership that tries to split or weaken the national community for purely ideological reasons is to be considered irresponsible. National solidarity and cultural identity have been among the pillars of our capacity to survive as a nation and a state through the centuries. A responsible leadership also has to increase our economic strength and competitiveness to assure national income and the ability for the state to act in the interest of social justice.”

“I am tired of paying exaggerated taxes.”

### 3.1.4 The following examples for irresponsible leaders were given by Lux.Nat.:

“There are too many irresponsible leaders in Luxembourg! I cannot name them all!”



"Then it is not irresponsible leadership but the wrong person at the job!"

"Then this is not a guide who shows you the way, but a manipulator."

The current government under Xavier Bettel. "The current left-wing Government under Prime Minister Bettel acts in a completely irresponsible way. Their idea to grant voting rights in national elections to foreign citizens would have, if accepted, put an end to the very existence of a Luxembourgish nation. Their ongoing fight against unborn children and the traditional families, the introduction of homosexual "wedding" and their adherence to gender-ideology, their continued struggle against the Catholic Church, their inability to manage crisis situations and their meddling around with public finance are but a few examples of the clear irresponsibility of the left-wing government and the Democratic, Socialist and Green political parties."

Former Prime Minister Gaston Thorn: "Former Prime Minister Gaston Thorn was one of that kind during the period of between 1974 and 1979. He wanted to build an atomic power plant at Remerschen at the Luxembourgish border river, the Moselle, during his legislature. More and more people were against, but Thorn did not respect his people. A national congress of the coalition government party LSAP, (the socialists) decided on a moratorium of the construction so that the plan was politically shot down. This made Thorn angry in a way that only a couple days later he ran to his homologue Alain de Guirongot, (he was not a French Prime Minister, but the Energy Minister under the Prime Minister Jacques Chirac and the President Valéry Giscard d'Estaing) in Paris where he signed the agreement by Luxembourg to an atomic power plant in Cattenom. The agreement was never confirmed by any parliament, but morally the damage was done, and we suffer from it for more than 30 years now and long beyond many generations. DIRTY THORN!"

All the politicians in general: they navigate without any vision. Their impact on our future generations is disastrous: see the discussions about the financing of our pensions, the construction of new buildings and streets...

Ryanair. Arcelor Mittal and Mr. Mittal. Banks that lay off staff for their own profit. The Lux-Leaks affair. VW. Nestlé. The financial sector in Luxembourg in general. Mr. Jean-Marie Le Pen, he preaches populist ideas. Mr. Donald Trump in his electoral campaign, where he promises unrealistic projects. The dictators in North-African countries or any other dictator.

"Your next research should be: What is the correlation between the irresponsibility of the company and the number of lawyers employed. My hypothesis is that there is a correlation!"

### **3.1.5 What is typical for Luxembourg? was answered by Lux.Nat. as followed:**

Peaceful country. High standard of life. Multilingual. Multicultural. Diversity. Cross-borderers, coming to work from the 3 neighbouring countries, without speaking all the languages.

The small size, and therefore small projects and limitations: “The limited resources and possibilities of a small nation-state need to be fully recognized and be properly taken into account, especially in our foreign policy.”

The tri-lingual public education system: Luxembourgish, German and French as instruction language in this order, while neglecting English.

Sport clubs, associations, teams

“Luxembourg always had to struggle for its independence and was very often disrespected, but saved into the present by either the capacity of being able to satisfy itself for its daily needs due to the iron-ores in the southern part of Luxembourg in the 19th century as well as the different political views of our big neighbors in the past, namely at the congress of Vienna where France wanted to englobe Luxembourg in its territory, but the Prussians were against and voted for a neutral territory. Thus, we should celebrate 2015 our bicentennial of Independence....

Today, we can save our sovereignty in the frame of the EU. As a small country we took part to the creation of NATO, the UN and our aid to development has reached the 1% of our GDP, more than the 0,7% required by the UN.

As Luxembourg lies at the crossroad between French and German cultures, our country is multilingual, most Luxembourgers can speak 4 languages, Luxembourgish, German, French and English. This makes Luxembourg a favorable place for foreign investors which again is kind of a fight against poverty.”

“Luxembourg’s reputation on the international scene is bad, because many neighboring countries are jealous, they use every occasion to denigrate the country, which has to be more Catholic than the Pope.”

Bullying in companies. A lot of nepotism, because everybody knows everybody. Easy, fast, simple contact. The high real estate prizes. Tourism, especially fuel tourism. The beautiful countryside and Luxembourg City. Schouberfouer. Les Casemates. People’s emphasis on luxury and their habits: always the same procedure, at the same place, the same time, the same hotel, their comfort, and their nice objects. Good social security. Everything is regulated, there are rules everywhere. Rules and law. Good infrastructure: airport, trains, highways. The only thing we are missing here is the sea, and good weather.

“Concerning responsible leadership, there are no specificities for Luxembourg or any other location on earth: either a person is responsible or he/she isn’t, independently of the location, it doesn’t matter if he/she is in Germany, in France, in Luxembourg, or anywhere else.”

### **3.2 RESULTS INTERVIEWS: Category Lux. Foreigners:**

**3.2.1 The question: “What is responsible leadership in Luxembourg” was answered by Lux. Foreigners as follows:**

One Italian said: “Ministers, prime minister, government, police, and especially citizens.”

“Based on the definition of Responsible leadership, by the Financial Times (<http://lexicon.ft.com/Term?term=responsible-leadership>), “Responsible leadership is about making business decisions that, next to the interests of the shareholders, also takes into account all the other stakeholders, such as workers, clients, suppliers, the environment, the community and future generations.” This definition applies to me for Luxembourg as well.”

A responsible leader has ecological, social and human, economical responsibility

A responsible leader knows how to motivate his/her people. He/she is a hard worker. He/she is somebody who cares for the collective well-being of citizens and the country. He/she helps employees achieving their goals. He/she maintains a good environment among colleagues. He/she is efficient. He/she listens. He/she helps his employees. He/she organizes social, sport events.

“I just came back from the ‘Letz go local market’ at the Rotondes. This, for me, is responsible leadership for Luxembourg. For example, one of my colleagues started knitting together with some elderly women. Her work was discovered and started being liked by a company, who ordered many knitted products from her. Now, my colleague has nearly too much work. She doesn’t know anymore how to satisfy the huge demand. She has to find more women to knit the pieces. This is a success story.”

“Responsible leadership is leadership that takes into account the complexity of the social and human relations, especially the interaction with the local community and the local environment.”

**3.2.2 The following examples for responsible leaders were given by Lux.Foreigners:**

“Me, us, I hope. Because I/we do everything to be it.

One Italian living in Luxembourg said: “Luxembourgish ministers, the Luxembourgish prime minister, government, police, labor representatives and especially citizens.”

“Bill Gates, since he knew how to use and increase the potential of others and hand it back to society. For example a friend of mine got a scholarship fund for his chair in informatics in order to do his research; he needed to present the results afterwards. This was a win-win situation for both parties (Microsoft and the University of Saarland).”

Barack Obama. Pope Franziscus.

**3.2.3 The question: “What is irresponsible leadership in Luxembourg” was answered by Lux.Foreigners as follows:**

One Italian said: “Citizens not respecting laws and civic rules and leaders not respecting peoples’ rights.”

“One of my colleagues told me, that she is working for 3 people. In her team of 3, she is the only one working. One colleague is sick because of the huge amount of workload. The other colleague is absolutely incompetent. He is the wrong person on the job. My colleague told the boss about the incompetency of the colleague. The boss replied: I do not want to fire this person, because then we will have to go through the ‘hiring procedure’. This means: the boss prefers keeping an incompetent person, because he wants to avoid going through the hiring process, a long process in our company.”

“Irresponsible leadership is short-term oriented, profit oriented use of employees with just one specific task in mind or for a limited period of time. This is high turnover leadership.”

“Irresponsible leadership is: Either the decision is aimed to serve and please the company’s family & friends, or it takes into account international actors and objectives and does not necessarily match with the shareholders based in Luxembourg.”

Bullying. Work overload. Lack of respect with regard to employees, colleagues, clients, and suppliers. Nepotism. Not caring for the well-being of the country, but following selfish interests of power.

**3.2.4 The following examples for irresponsible leaders were given by Lux.Foreigners:**

Real estate agents in Luxembourg, as prices are far too high. Bankers, banks, as money is not ‘clean’. Citation: “I don’t have a specific person’s name in mind. As a general example, I can refer to the banks middle and small managers who are mostly chosen to lead a team and make sure the job’s done. But they don’t necessarily have the mandate, the competencies, the personality, the training or even the vision to become a (responsible) leader.”

Irresponsible are those people in the education system, judging children of foreigners. Irresponsible are those people who insist on making the Luxembourgish language a distinctive element for nationality and national identity. Asport, a sports article shop, because for achieving their financial profit they disrespect people. Luxair. Cactus. Irresponsible are those companies which are not providing free drinking water to their employees.

“Roland Koch. He was helping to privatize two university hospitals (Marburg and Gießen which became the Rhön Kliniken) because of the short term profits, without trying to use and encourage the potential of the personnel working there. Also, he mismanaged Bilfinger and in the end, causing high

losses at this company, he insisted on getting paid until February 2016, whilst he resigned as a manager on 8 August 2014. His personal interest was higher than that in the people that he led.”

Companies which proclaim magic formulas, their employees knowing that they cannot fulfill these promises, but still having to offer these products. Because the job market is difficult. There are companies which open just for a few months, offering unrealistic prices and products, only to shut down a few weeks later. Dictators in North Korea, China, Russia, Syria. “One example for irresponsible leadership is Mauritius, where I spent my vacation. They live from exports of sugar cane. They export their entire sugar cane production, with the result that they are obliged to import the sugar for their own consumption. I think it’s the same for the rice.”

### **3.2.5 What is typical for Luxembourg was answered by Lux.Foreigners as followed:**

Multilingual; Multicultural: the cultural mix; The Cross-Borderers; The diversity.

“It is specific for Luxembourg that a lot of different cultures and backgrounds are gathered in one little country and since it is a melting pot, no one can be aware of all steps and studies that a person has taken until arriving here. A lot of potential can therefore get lost.

Here is the example of a colleague who studied French literature, is now working in marketing, but back in the eighties did also start to do studies as an artist.”

**“For small and middle Luxembourgish companies:** In a small national market with few competitors; where clients are mostly “family and friends” (from the same schools or club co-members), decision-taking is biased and based on consensus, not on real and rational business objectives.

**For bigger and international organizations:** decisions are taken and monitored from abroad (e.g. from HQs based outside Luxembourg) and don’t take into account Luxembourg’s interest.”

Schouerfourer; Braderie.; Octave; Festival des migrations, des cultures et de la citoyenneté ; Bazar International; La Fête Nationale; Tourism.

## **3.3 RESULTS INTERVIEWS: Category Cross-Borderers:**

### **3.3.1 The question: “What is responsible leadership in Luxembourg” was answered by Cross-Borderers as follows:**

“My opinion has been succinctly explained in the HBR article on HR management, but I think it can apply to responsible leadership in Luxembourg and around the world. <https://hbr.org/2015/08/what-separates-great-hr-leaders-from-the-rest>

The 16 Key Leadership Skills:

Great outcomes are connected to 16 leadership competencies that span five categories: **Character:** 1. Displays honesty and Integrity; **Personal Capabilities:** 2. Exhibits technical/professional expertise; 3. Solves problems and analyzes issues; 4. Innovates; 5. Practices self-development; **Getting Results:** 6. Focuses on results; 7. Establishes stretch goals; 8. Takes initiative; **Interpersonal skills:** 9. Communicates powerfully and broadly; 10. Inspires and motivates others; 11. Builds relationships; 12. Develops others; 13. Collaborates and fosters teamwork; **Leading change:** 14. Develops strategic perspective; 15. Champions change; 16. Connects the group to the outside world"; **Taking decisions:** Be able to listen. Respect for the team. Trust .

A responsible leader is an expert in his/her domain. Responsible leadership depends on the level in the hierarchy. On different levels, there are different expectations. The Grand Duke and the Grand Ducal Family, the politicians and associations in Luxembourg.

### 3.3.2 The following examples for responsible leaders were given by Cross-Borderers:

The Grand Duke and the Grand Ducal Family. My father. My boss. Jean-Claude Juncker, he had the talent and skills but has lost his way. Cactus. Luxlait. Goodyear. Delphi [by hiring locally but also expatriates, contributing to an ideal mixture and diversity]. Politicians. Associations.

### 3.3.3 The question: "What is irresponsible leadership in Luxembourg" was answered by Cross-Borderers as follows:

Missing team-work. Missing motivation. Tyrannical behavior. Bullying. Threatening people. False friending. False talking. False promises.

"Luxembourg has been very irresponsible with the education of its youth, in my honest opinion. There is no reason why Luxembourg should be in the bottom half of the PISA scores, for example. Plus, the multi-cultural and -linguistic aspect has not been exploited to its maximum. The PISA scores: I think the teachers should step down from being civil servants. They are being very obstinate so far. They should stop worrying about their jobs and start worrying about the greater success of the country. They are civil servants. The whole Luxembourg state should review the whole civil servants status. If you worked in France in a public school, you wouldn't want this job. The teachers are highly underestimated. As the kids come to school in cars worth your annual salary, then you reflect on that and your career. They are overpaid, anyhow the whole education system should be completely reviewed. They should better educate their teachers."

### 3.3.4 The following examples for irresponsible leaders were given by Cross-Borderers:

Arcelor Mittal: Citation: "As Indian, he invested in Luxembourg and in France, promising to keep the employees, but then he didn't stick to his promises and laid off the people, or closed the entire factory (Florange, etc.). He is only looking at his own profit, not the profit of the country (Luxembourg, France) or of their people (every person's dignity)."

Jean-Claude Juncker. Citation: "Given that JCJ was Prime Minister over 3 decades, he should shoulder much of the blame."

Lucien Schneider. Other members of the former JCJ government. The current government and Prime Minister. The civil servant status of teachers / and in general.

"An irresponsible leader is somebody who becomes manager without having any clue of people management (most of the managers unfortunately, or too young managers), as people management is not given to everybody. Not everybody can be a good manager."

### **3.3.5 What is typical for Luxembourg was answered by Cross-Borderers as followed:**

It's a great place to live and work in. Multilingual. Multicultural. Cross-cultural management. The Cross-Borderers. The financial advantages, less taxes, higher salaries. EU presidency 07/2015-12/2015. European Institutions in Luxembourg. A lot of banks, funds and investment companies and headquarters are located in Luxembourg because of its business-friendly tax laws.

The good working conditions in general, where forecasts are met by reality (not the case in my home country).

"The difference in legislation applying for people working together, as different laws apply for Lux.Nat., Lux.Foreigners, civil servants, Cross-Borderers: i.e. different school vacation times, different salaries, different National Holidays (Fête Nationale), that leaders need to take into account."

## **3.4 RESULTS INTERVIEWS: Category World:**

### **3.4.1 The question: "What is responsible leadership in Luxembourg" was answered by 'the rest of the world' as follows:**

Taking care of the followers more than taking care of self. Covering short as well as long term objectives. Employing the highest standards of ethical behavior.

"Knowing little about Luxembourg other than it's a good country in which to bank if you have a lot of money, I don't have any information upon which to make judgements. What is "responsible" appears to be culturally determined, see, e.g.:

Witt, M. A., & Stahl, G. K. (2015). Foundations of Responsible Leadership: Asian Versus Western Executive Responsibility Orientations Toward Key Stakeholders. *Journal of Business Ethics*, 1-16.

Greenberg, D. (2015). Review: Globally Responsible Leadership: Managing According to the UN Global Compact. *Academy of Management Learning & Education*, 14(1), 1-15.

Stahl, G. K., & de Luque, M. S. (2014). Antecedents of responsible leader behavior: A research synthesis, conceptual framework, and agenda for future research. *The Academy of Management Perspectives*, 28(3), 1-19.

Security. Respect. Fairness. Reliability. Doing not talking. Commitment. Compassion. Hold to your promises.

“Responsible leadership is leading your business in a way that benefits the community. A responsible leader will make ethical decisions and encourage a culture of responsibility in the wider company, with an equal eye on profits, long term success and the environment and community.”

Corporate Social Responsibility (CSR): Citation: “Ethical, cross-culturally competent, socially responsible (CSR), inspiring and leading to a real breakthrough, able to make difficult decisions and taking into account their long-term impact on stakeholders.”

What is ‘responsible’ in one country, is not automatically ‘responsible’ in another country. This is a cultural issue. ‘Responsible’ in Bulgaria might not be ‘responsible’ in Germany, or in Saudi Arabia, or in Scandinavia. Different countries have different standards and interpretations, different rules, also in regard of women’s rights.

#### **3.4.2 The following examples for responsible leaders were given by ‘the rest of the world’:**

Ghandi. The CEO of Costco – taking 10 times the salary of the lowest paid in his company (about \$400K). Dr Angela Merkel. Barack Obama. Martin Luther King; Bill Gates –Steve Jobs. Warren Buffet, Gian-Luca Buffon. Mr. Rossmann (Germany).

#### **3.4.3 The question: “What is irresponsible leadership in Luxembourg” was answered by ‘the rest of the world’ as follows:**

Making promises one does not intend to keep.

“In general terms, irresponsible leadership is going after profits as a priority and not taking into consideration employee well-being, a short term focus for the organization, not taking into account the wishes of people in the community with regards to expansion or environmental concerns, and not providing any value to the community, perhaps in terms of training local people who could work for the business.”

“For me, the worst combination is ‘incompetence’ coupled with ‘lack of sense of responsibility’, notably regarding people in companies, these two should never come together, that’s absolutely the worst scenario.”



### 3.4.4 The following examples for irresponsible leaders were given by ‘the rest of the world’:

You may count 98% of the current leaders. Nearly all politicians: they mainly care about being re-elected. The leaders of BP (the oil spill). Hitler. Tony Abbot (Australian Prime Minister). Citation: “Very self-focused, doesn’t believe he needs to properly address the concerns of the majority of the voting citizens in Australia, very backward in embracing new sustainable technologies, preferring coal to wind farms etc...”

Steve Jobs: the infamous factories in China. Another example: USA prisons. Mr. Alexis Tsipras in Greece. Mr. Vladimir Putin in Russia etc., Mr. Assad in Syria.

### 3.4.4 What is typical for Luxembourg was answered by ‘the rest of the world’ as follows:

I know nothing or very little about Luxembourg. Where is Luxembourg? It is extremely rich, with one of the highest GDPs in the world. Beautiful countryside.

## 4 CONCLUSION, DISCUSSION AND IMPLICATION

The purpose of this research was to discover what is responsible and what is irresponsible leadership not only in general, but specifically in Luxembourg. Even though the findings from the 51 interviews confirm the literature, new knowledge is added to the existing knowledge about responsible leadership regarding Luxembourg.

In conclusion, the author’s hypothesis was confirmed: *What is ‘Responsible leadership’ - depends mainly on the respondent’s cultural dimensions and his/her value system.*

## 5 FUTURE RESEARCH

Future research could focus first on civil servants, second on linguistic and cultural issues combined with responsible leadership in Luxembourg, third on expatriates and global mobility. Furthermore, in addition to the interviews, collecting more data via questionnaires could allow for more sophisticated methods.

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## USERS GENERATED IDEAS VIA SOCIAL MEDIA NETWORKS: BASED ON THE OI MODEL

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### ABSTRACT

Leveraging on the keep-going growth of the use of social media networks (SMNs) within organizational environments, the relationship of these digital tools with the open innovation (OI) model was quantitatively explored in order to bridge the current gap in the literature review. Here, since the lack of knowledge of the use of OI model through SMNs in the service industry, this research seeks to evaluate the OI model through the use of SMNs by 374 small medium enterprises operating in the service industry in UK. This open approach involves the concept of online customers' co-creation which called for user-generated ideas. Empirically, the relationships among user-generated ideas, the use of social media networks, the adoption of OI model, and SMEs' innovation performance are estimated by the structural equation modelling. Findings and discussion are argued based on the lens of OI model. Finally, academic and managerial implications were provided along limits and further research.

**Keywords:** *open service innovation, user-engagement, users' generated ideas, social media networks.*

### INTRODUCTION

The world-developed economies are increasingly based on service economy. In fact, services contribute more than 70% of aggregate gross domestic product (GDP) and employment in the Organization for Economic Cooperation and Development countries (OECD, 2015). In addition, empirical evidences in literature indicate that service firms are innovative at least as much as the manufacturing firms (Metcalf and Miles, 2000) and also are considered the main source of the current growth in the international economies (Love et al., 2010). In this context, current technological opportunities and challenges are stimulating service firms' innovation process with strong emphasis on external collaboration and open innovation (Chesbrough, 2011; Cusumano et al., 2015). The open innovation paradigm assumes that firms should interact with the eco-system in order to facilitate innovation process acquiring and absorbing external knowledge (Chesbrough, 2006). Alongside this,

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literature on innovation in service industry highlights the key role of online customers in the development of new ideas and knowledge which can be translated in incremental or radical innovation services (Tether, 2005; Schumpeter, 1939). However, despite some theoretical arguments that point out the relevance to adopt an open innovation approach in the service industry (Chesbrough, 2011), scholars are still focused on the embeddedness of the open innovation (OI) in the manufacturing industry. Therefore, we reckon that the open service innovation deserves more attention from different points of view. For instance, there is a scarcity referring to open service innovation in small and medium enterprises (SMEs), even though literature underlines that smaller are adopting an increasing open approach to innovation (Brunswick and Vanhaverbeke, 2015), and they are recognized as a strong source of growth in the world economies (European Commission, 2013).

The paper seeks to contribute to the literature review from two points of view. First of all, it sheds light on open service innovation highlighting the strategic role of users in create new services via social media networks. In doing so, we also fill a gap already mentioned by Mina et al. (2014), when they called for more research on the relationship between openness in service firms and performance, investigating on if there is a positive or negative relationship between these factors. In order to analyse these aspects, an empirical analysis is conducted on 374 SMEs operating in the service industry in the United Kingdom (UK). A primary research has been carried out for one year and the data obtained were measured via the Structural Equation Modelling (SEM).

Therefore, the paper is structured as follow. First, a theoretical framework based on open service innovation and social media networks was argued. And then leveraging on this theoretical base, hypotheses were formulated and measured through an empirical research. It was conducted on 374 small medium enterprises operating in the service industry in UK. Via Structural Equation Modelling the findings were evaluated. Finally academic and managerial implications were provided along limits and further research.

## **THEORETICAL FRAMEWORK**

### *Open service innovation*

Developing and commercialising products and services usually involve risk and uncertainty due to the high competitive market since the market (Bresciani, 2010). Consequently, firms tend to adopt an open innovation strategy based on collaborations with their eco-system. The scope is to reduce and share costs and risks of an innovation process, and also to optimise time to market (Vanhaverbeke et al., 2008). In line with this, more and more scholars have been studying the Open Innovation (OI) model in the last few years. This model was defined by Chesbrough as “the use of purposive inflows

and outflows of knowledge to accelerate internal innovation, and expand the markets for external use of innovation, respectively. Open innovation is a paradigm that assumes that firms can and should use external ideas, as well as internal ideas, and external and internal paths to market, as they look to advance to technology” (2006c, pp.1). Several studies tend to describe openness in terms of openness variety considering the number of external sources involved in the innovation process and partner intensity assessing the depth of the relationship between the focal firm and the external source (Laursen and Salter, 2006; Mina et al., 2014; Aloini et al. 2015).

So far, mainstream studies on open innovation focused mainly on large and multinational enterprises (Chesbrough and Crowther, 2006; West and Gallagher, 2006; Mortara and Minshall, 2014) even if a recent attention has been aimed at small medium enterprises (SMEs) (Brunswick and Vanhaverbeke, 2015; Santoro et al., 2016). In fact, some empirical studies highlight that SMEs are adopting an increasing open approach to innovation, even higher than larger enterprises (Spithoven et al., 2013). Despite that, the lack of knowledge on the OI model is still related to the service industry as well as SMEs. This is caused partly to the slow adoption of systematic and effective processes for innovation with low investments in R&D activities (Tether, 2003; Nesse, 2008). However some studies show the predominant use of the OI model in the service industry (Leiponen, 2005; Tether, 2005; Cainelli et al., 2006; Scuotto and Shukla, 2015) makes a positive effect on firms’ performance (Love et al., 2010). In turn, the need of shorten time to market, lower costs, new technological opportunities, and sector integrations are achieved (Metcalf and Miles, 2000; Cusumano et al., 2015). Notwithstanding, the open service innovation process is quite different to product innovation, because there is not a physical and linear process in transforming an invention to an innovation (Mina et al. 2014). In fact, the formal stage-gate processes used in many large manufacturing companies to advance new product development from inception to the market likely are not used in the service industry. But the service innovation process is likely to embrace a co-creation process that can involve customers and/or other business (Prahalad and Ramaswamy, 2004).

As a consequence, while manufacturing firms are more likely to innovate relying on internal R&D efforts, service firms are more likely to collaborate with customers and suppliers (Tether, 2005), employing lower internal R&D investments (Kanerva et al, 2006).

Thus, the interactive and relational nature of service industry indicates that service SMEs should adopt an open innovation strategy (Adu and Singh, 1998), based of informal exchanges, exploiting networks and communities, and achieving un-codified know-how (Mina et al., 2014). Engaging with market-based partners such as users can help SMEs in identifying market requirements and needs, developing new solutions and ideas (Adu and Singh, 1998; Mention, 2011). E-collaborations tools are employed to foster information and communications flows (Chen et al., 2012; Scuotto and Morellato,

2013; Del Giudice et al., 2014). In fact, theoretical contributions stress that on-line interaction with customers through is the most powerful channel of knowledge transfer supporting open service innovation (Chesbrough, 2011). Actually costumers are playing a significant role in encouraging the service sector to be more innovative (Boschma 2005; Love et al., 2010). In turn, firms are more customer centric orientation with a predominant focus on the online environment (Love et al., 2011).

Therefore, we declare that

*Hp. 1: openness in service sector is positively associated to SMEs' innovation performance*

*Hp. 2: openness in service sector is positively associated to enhancing the relationships with customers.*

#### Open Service Innovation and User-Generated Ideas

With a growing interest in collaborations, networking, and open innovation from firms, most of scholars' attention has been paid to a main external source of knowledge, namely as the user. In fact, many firms exploit users' ideas to create new innovations (Franke and Piller, 2003). User-generated ideas are related to the engagement stage where firms tend to establish active, creative, and social collaborations (Roser et al., 2009). Therefore, SMEs should adopt an OI user engagement strategy focusing on the type of interaction with users such as sharing information, peer-to-peer recommendations, and searching (Piller et al., 2010; Diener and Piller, 2010; Piller et al., 2010). This is beneficial for mainly smaller firms since they have fewer human and financial resources (van de Vrande et al., 2009; Brunswicker and Vanhaverbeke, 2015).

Hence, SMEs become more customer-oriented, offering personalized services with a better quality and consequently improving customers' satisfaction by building a relational link (Hartline et al., 2000; Slater and Narver, 1998; Chesbrough, 2011; Weinberg and Pehlivan, 2011). For instance, Alam (2002) suggest that managers should be more proactive in developing long-term relationships with customers as co-partners based on online interactions. This collaboration is fundamentally beneficial in the early stage of the innovation process even in the post- launch stage where customers' recommendations are becoming increasingly significant in generating incremental innovation (Neale and Corkindale, 1998; Gales and Mansour-Cole, 1991). Users' engagement is typically a form of external linkage that involves lower costs compared to other open innovation practices, ensuring flexibility, which in turn guarantee SMEs superior responsiveness to market-needs (Sivadas and Dwyer 2000). Thus, user represents the main external source of new ideas for innovation also for SMEs, and user – generated ideas positively affects SMEs' performance (Adu and Singh, 1998).

Therefore, we state that

*Hp. 3: user - generated ides is positively associated to users' engagement.*

*Hp. 4: user generated ideas is positively associated to the SMEs' innovation performance*

#### Social Media Networks

Concerning the users' engagement, firms can use a range of activities spanning from the traditional questionnaire or market research to a deep involvement in the innovation process whereby users play an active role in the generation of new ideas (von Hippel, 1998; Alam, 2002). Alam (2002) identifies six main user engagement modes such as face-to-face interviews, user visit and meetings, brainstorming, users' feedback; phone calls, fax and emails, and focus group discussion. In turn, technological tools as well as social media networks (SMNs) are centrally part of this process (Bughin et al., 2011). Users generated new ideas via SMNs which are interactive platforms where people as part of the eco-system share, co-create, discuss, and modify user-generated content (Kaplan and Haenlein, 2010). SMNs rely on digital platforms such as blogs, microblogging, forums, professional networking platforms, and social networks (Cortizo et al., 2011). Thus, firms can increase the use of social media networks. These tools have a twofold objective. On one hand, they foster marketing, advertising and branding activities in order to increase sales (Culnan et al., 2010). Increasing sales can be seen as a variable of user-firms engagement evaluation (Love et al., 2011). On the other, firms are increasingly conscious that SMNs can be used as strategic platforms to engage users in the idea generation (Fuller and Matzler, 2007). For instance, LinkedIn, Facebook, and Youtube facilitate the relationship between SMEs and users thanks to the strong networks they allow, connecting millions of users by establishing user communities and enabling communications among communities and firms without cost (Piller et al. 2012). Thus, increasing both the use of social media networks by firms (Moital et al., 2009; Leung et al., 2015), the use of social media by users (Dijkmans et al., 2015), and in turn the perceived reputation and commitment in social media networks (Wetzels et al., 1998; Marchiori et al., 2013) is recognized as a driver for the generation of new ideas which in turn can be translated in innovative services, in new innovative business model, and increasing in sales indicators such as ROS (Love et al., 2011; Chesbrough, 2011).

Therefore, we declare that

*Hp. 5: SMNs mediate the relationship between user-engagement and user generated ideas.*

*Hp. 6: SMNs positively influence SMEs' innovation performance.*

## METHODOLOGY

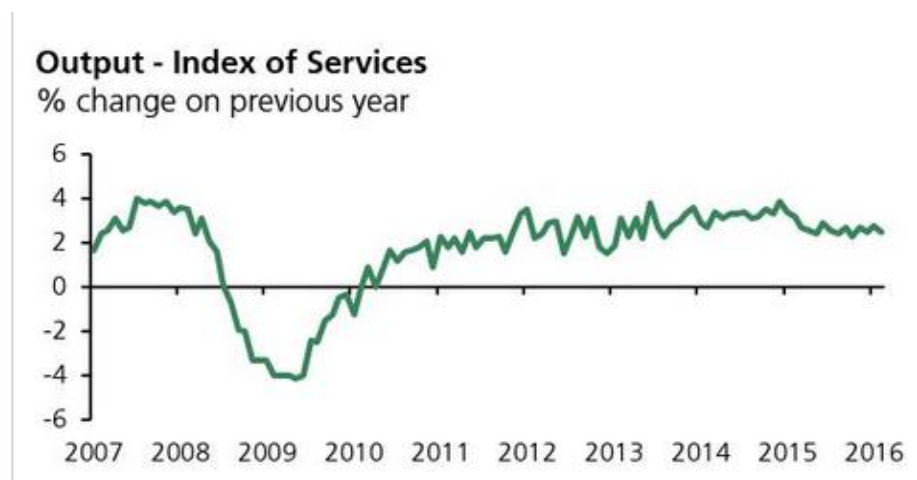
### Research Context

Looking into UK market 2015, firms operating in UK were in the region of 5,4 million, where 99% are Small Medium Enterprises (SMEs). The service industry has been growing faster and efficiently since the last few years, accounted for 80% of the Gross Value Added (GVA) accounted for 83% of jobs in September 2015 (Markit/CIPS, UK Services PMI, 2016). This industry is composed by a diverse set of sectors such as retail, financial sector, public sector, business administration, and cultural activities.



The growth has been mainly pushed from the new technological changes that stimulate firms to be proactive and innovative. In turn, customers become more and more active and stand for firms' innovation. Fundamentally the innovation ideas are more and more developed in joint with customers, differently to the past where customers' trust and receptiveness was considered a barrier to innovation (CBI/QinetiQ, 2008). In line with this market overview, the paper seeks to investigate if firms are improving the innovation performance collaborating with customers via social media networks (SMNs) and consequently adopting the OI model.

**Figure 1 – Output – Index of Services**



Source: Markit/CIPS, UK Services PMI, 2016.

**Figure 2. Firms operating in UK by Number of Employees**

	Businesses 1000s	Employment 1000s	Turnover £ billions	Businesses %	Employment %	Turnover %
No employees	4,078	4,451	237	76%	17%	6%
SMEs (0-250 employees)	5,382	15,611	1,754	99.9%	60%	47%
Of which: Micro (0-9 employees)	5,146	8,461	673	95%	33%	18%
Small (10-49 employees)	204	3,967	543	4%	15%	15%
Medium (50-249 employees)	33	3,183	538	1%	12%	15%
Large (250+ employees)	7	10,260	1,956	0.1%	40%	53%
Total, all businesses	5,389	25,871	3,710	100%	100%	100%

Source: BIS, 2015

In UK a total number of 4.0 million firms are based on the service industry where professional, scientific, and technical sector accounted for 15% of firms, while retail sector for 10%. Instead of manufacturing sector relies on just 5% of all firms.

Figure 3. Firms by industry in UK

	Number of businesses		Employment	Turnover
	000s	%	%	%
Agriculture, mining and utilities	183	3%	3%	7%
Manufacturing	276	5%	10%	16%
Construction	956	18%	8%	7%
Total services	3,975	74%	79%	71%
<i>Of which:</i>				
Retail	523	10%	19%	37%
Transportation	275	5%	5%	5%
Accommodation & food	183	3%	8%	2%
ICT	339	6%	5%	6%
Financial and Insurance	84	2%	4%	-
Real estate activities	105	2%	2%	1%
Professional and scientific	793	15%	9%	7%
Administrative & support service	443	8%	11%	6%
Education	268	5%	2%	1%
Health and social work	371	7%	7%	2%
Arts and recreation	268	5%	3%	3%
Other service activities	323	6%	3%	1%
Total	5,389	-	-	-

Source: BIS, 2015

### Research Design and Sample

Leveraging on a strong literature review grounded of more 30 research articles, a strong empirical analysis was conducted on 374 UK SMEs, selected by following three drivers that can easily be considered as proxy of open innovation growth path. In particular, the variables:

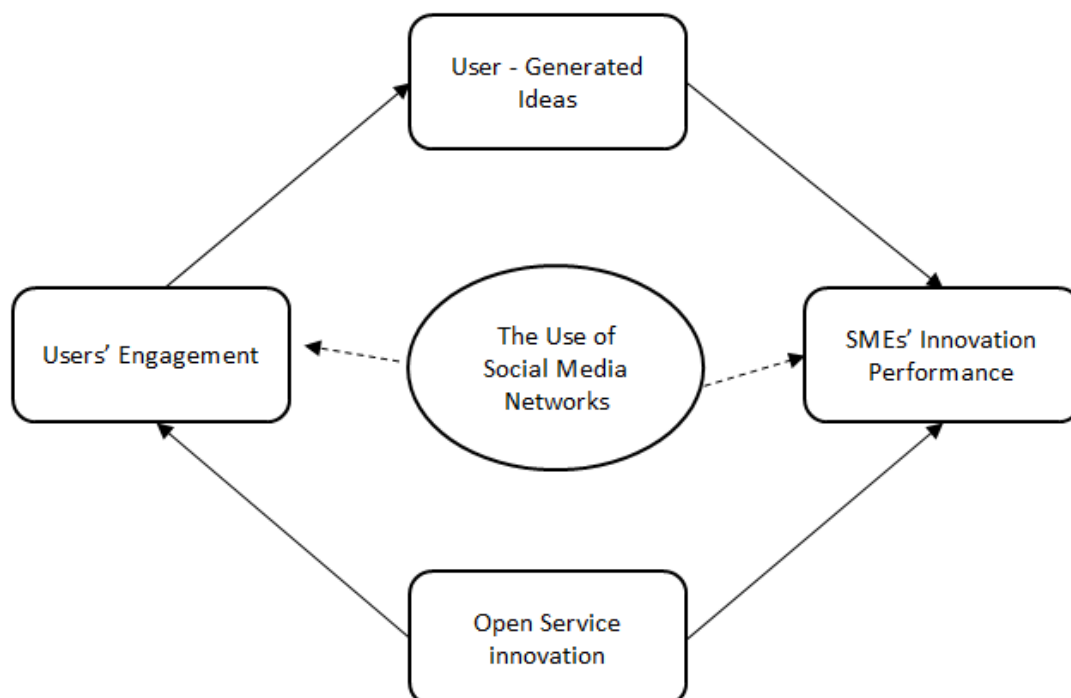
- **Progress in innovation;**
- **Adoption of social media networks;**
- **Belonged to the service industry.**

The sample was built up in four months, starting from a population of 784 SMEs (European Commission, 2009). The stage took more than ours expectations since some information on the above selection criteria were missed. Therefore, SMEs were contacted by email as the first instance and in the case of no response another contact was made by phone. Completing this stage, the collection data were carried out by an online survey. The survey was filled out by managers of R&D development and costumers' service. At least, they were two for each SMEs and occasionally just one participant who was in charge of both roles.

The scope of this empirical research was to investigate diverse aspects such as the adoption of OI model, the development of innovative ideas in joint with customers, the use of SMNs to generate these ideas. The survey was built up on 15 close questions with a brief statement on the research purpose.

Questions were structured out using a funnelling technique (Breiman et., 1984). So initially questions on basic firm's information such as sector; number of employees; job position, among others were outlined, followed to specific one rely on in five main aspects such as open service innovation, users' engagement, users-generated ideas, service innovation performance, and the use of SMNs. Each aspect was investigated on return on sales; sale growth; interaction between consumers and SMEs; stages of innovation process; degree of collaboration; use of SMNs by SMEs, intensity use of SMNs by users; Relational/behavioural dimension; Partner Intensity; E-collaboration digital tools; and openness variety. For instance, some of the questions were: Q5. How much you agree with statement – Users' engagement improve innovation performance; Q9.\_How much you agree with statement – user-generated ideas are fundamental in an early stage of innovation process Q10. How much you agree with statement – a lack of an open approach can decrease innovation process; Q12. How much you agree with statement – SMEs are innovative in the service sector; Q13. How much you agree with statement – a customer is a partner for your firm; Q15. How much you agree with statement – social media networks improves your relationship with customers. So based on these questions, each respondents was asked to choose a statement value on a range of 1 as disagree strongly and of 5 as agree strongly (Likert, 1932).

**Fig. 4: The Design Model**



The data collection ended up after 8 months thanks to the big effort made by all authors. Subsequently the data were examined and split up in the five topics identified as five latent variables such as open Innovation, Entrepreneurship and Digital Ecosystems

service innovation, users' engagement, users-generated ideas, service innovation performance, and the use of SMNs (figure 3), and then measured via Structural Equation Modelling (SEM). In line with previous research that declared the significance of data measurement (Hooper et al., 2008), we reckon that this method fits our research.

As showed to the design model five latent variables were analysed accounted for 15 items. To each latent variable were associated three items or manifest variables as indicated in the following table.

**Table 1. Dimensions and Items**

Dimensions	Items	References
<b>SMEs' performance</b>	Service innovation stem from external environment	Love et al. 2011; Chesbrough 2011
	Service business model innovation	Love et al. 2011; Chesbrough 2011
	Return on Sales	Love et al. 2011; Chesbrough 2011
<b>OI users engagement</b>	Type of interaction (e.g. sharing information, peer-to-peer recommendations; and searching, among others).	Piller et al. 2010
	Innovation process stage	Diener and Piller, 2010; Piller et al. 2010
	Relational/behavioral dimension	Diener and Piller, 2010; Piller et al. 2010; Weinberg and Pehlivan, 2011
<b>Social Media Networks</b>	Use of SMNs by SMEs	Moital et al. 2009; Leung et al. 2015
	Intensity Use of SMNs by users	Dijkmans et al. 2015
	Perceived reputation and commitment in SMNs	Wetzels et al. 1998; Marchiori et al. 2013
<b>Open service innovation</b>	Partner Intensity	Laursen and Salter 2006; Mina et al. 2014; Aloini et al. 2015
	Openness variety	Mina et al. 2014; Aloini et al. 2015
	E-collaboration digital tools	Chen et al. 2012

## ANALYSIS AND RESULTS

Examining the data, the adoption of the OI model relies on costumers' collaboration via SMNs was translated into mainly sales performance. In fact, 75% of respondents indicate "agree strongly" to the questions: OI model is enhancing your sale performance; the use of SMNs is positively connected to more satisfied customers; the increasing of costumers' satisfaction is positively linked up to higher earnings; the co-creation approach allows you to work on more projects with lower investment.

Furthermore, the results showed that the SMEs are likely to be more efficient and successful when sharing knowledge and ideas with the external environment. Regardless of that, this approach tends to rule out the internal innovation but dedicate more energy to the external one as declared from some respondents (around 7%). While just 3% of the respondents have just started recently to use SMNs and adopt an open approach with their customers.

### **Structural Equation Modelling via IBM SPSS Amos**

Via structural equation modelling (SEM) the connection between the five latent variables were measured (Jöreskog and Wold, 1982). The analysis was divided in measurements, i.e. outer model and structural one.

#### **Outer Model**

Applying the outer model the relationship between each manifest variables and the relative latent variable was evaluated (Chin & Newsted, 1999, p.322), emerging that the score is 78. The manifest variable are the “*reflection*” of their *latent variables* (Tenenhaus *et al.*, 2010) to which the reliability was estimated by Cronbach's alpha (Cronbach, 1951). The Cronbach's alpha of each relationships emerged to be positive with a value of  $\geq 0.7$  (Hair *et al.*, 2010). Moreover the reliability was also confirmed, evaluating the internal consistency which its scale was above .3 (Henson 2001).

**Table 2. Reliability Test**

Reliability Statistics		
Cronbach's Alpha	Cronbach's Alpha Based on Standardized Items	N of Items
.78	.79	374

#### **The Structural Model**

Consequently the predictive relevance of the model was evaluated calculating R-squared for endogenous latent variables (Chin and Newsted, 1999). The R-Squared for Users-generated ideas is rated by 0.64, the use of SMNs is .81, users' engagement was scored 0.64, and SMEs' performance via (1) Via User-Generated Ideas is .57 and (2) via Open Service Innovation is 0.78.

**Table 3. R<sup>2</sup>**

	User-Gen.Ideas	UseSM Ns	UsersEng.	SMEsInnovP erf (1)*	SMEsInnovP erf (2)*
R <sup>2</sup>	.64	.81	.67	.57	.78

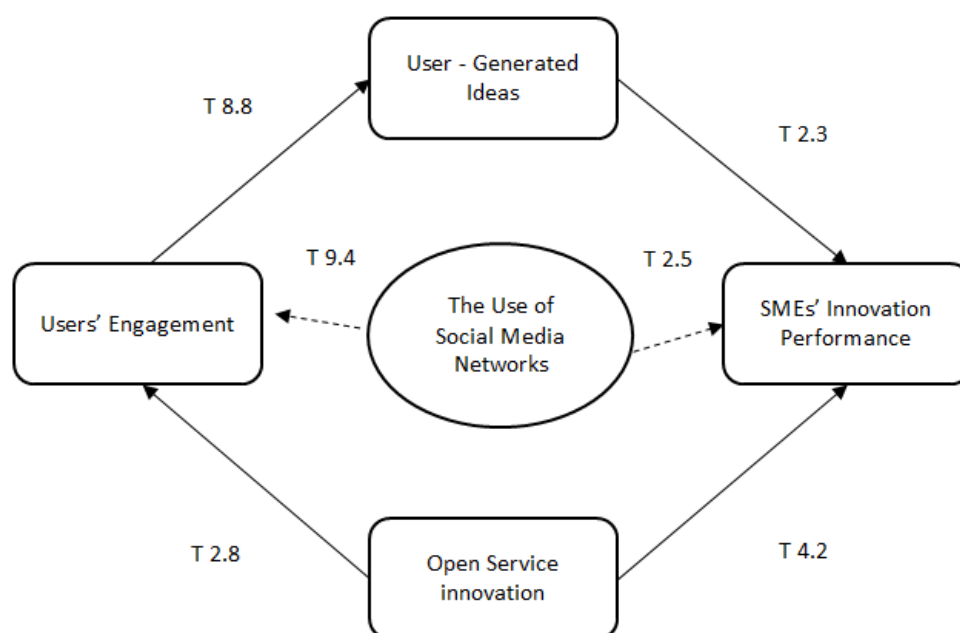
(1) Via User-Generated Ideas

(2) Via Open Service Innovation

Finally the relationships between all manifest endogenous and exogenous variables were measure via a path analysis and bootstrap approach (Anderson and Gerbing, 1988; Chin, 1998) as well as the hypotheses were tested. Therefore looking at the Table 5 the scores of unstandardized coefficients, standardized coefficients, T-statistic and corresponding p-values were indicated.

Referring to H1 – openness in service sector results to be positively connected to SMEs' innovation performance ( $T=4.2$ ,  $p<0.001$ ). Therefore H1 is confirmed. Regarding to H2, there is a positive relationship between openness and the enhancement in relationships between SMEs and customers ( $T=2.8$ ,  $p<0.001$ ). Also in this case the H2 is supported. Considering H3 which regards to the use of SMNs and is focus on the relationship between user-generated ideas and user's engagement which is resulted positive ( $T=8.8$ ,  $p<0.001$ ). So H3 is supported. In turn, H4 based on the relationship between user-generated ideas and SMEs' innovation performance is slightly significant ( $T= 2.3$ ;  $p<0.001$ ). Thus, H4 is supported. Finally, evaluating H5 refers to the role of SMNs as a mediator between users' engagement and user-generated ideas ( $T=9.4$ ,  $p<0.001$ ), H5 is clearly positive. Moreover, concerning H6, the relationship between SMNs and SMEs innovation performance is slightly positive ( $T=2.5$ ,  $p<0.001$ ). Overall all hypotheses are confirmed as reported in the figure 5.

**Figure 5. The hypotheses tested via bootstrap approach**



## DISCUSSION

The purpose of the research was to evaluate the impact of User-Generated Idea on SMEs' innovation performance through a holistic view of open service innovation approach (Chesbrough, 2011). This approach relies on the virtual market where social media networks are the predominant venues to Innovation, Entrepreneurship and Digital Ecosystems

share information and exchange knowledge. By according our empirical findings, we currently are able to comment there is a strong correlation between SMEs' innovation and SMNs generated content. The research suggests that UGC are growing about the possibility of co-creating value with "social network customers", which assume a pro-active role in ideating, producing or testing innovation, by interacting them with each other (i.e. testing prototypes, supporting design, suggesting references or additional services, etc.), by according the principle of open innovation approach (Chesbrough, 2003, 2011; Prahalad & Ramaswamy, 2004).

In a service-dominant approach (Lusch & Vargo, 2008), the creation of innovation, then of value, is the core purpose and central process of economic exchange, especially if we consider the interaction-revolution of the economic system, produced by advances in information technologies and the growth of a knowledge-based service economy (Vargo et al., 2008; Del Giudice & Straub, 2011). Open innovation are transforming the basis of technological innovation and global corporate competition, especially if we consider small business world which is affected, both strategically is financially, from greater challenges and higher risks in managing technology-push innovation process, due to a shortage of managerial and financial resources as a results of the smaller size.

In this regard, as confirmed by our hypotheses (especially HP4 and HP5), UGC through SMNs can enabling SMEs to produce innovation "market pull" interacting with the eco-system of customer-users as well as by facilitating acquisition and absorption of external knowledge and big data. Moreover the OI model directly reflects on revenues and capital efficiency, then the performance, confirmed by HP6, which feeds a spiral of growth sustained by a knowledge competitive advantage increasingly considered as the main source of the capacity of enterprise to create value and survive in long-term (Leonard, 2000; Teece, 2007; Golinelli, 2010; Del Giudice et al. 2013, Scuotto et al, 2016). Consequently the adoption of an open approach triggers off different innovation forms – more incremental than radical ones. Obviously, this is not that easy as theorized about but for sure the majority of small and micro firms present in UK, with relatively low educational level, familiar in working with "geolocalized" consumers can facilitate the process of transferring data and information, useful in producing users' engagement and ideas. Overcoming traditional communicative logics, SMNs emphasize the development of a direct and iterative customer-producer relationship through interaction and exchange of ideas. Over large companies, even SMEs are seeing important challenges in percent revenue derived from technologies facilities. The need for service innovations to fuel economic growth and to raise the quality and productivity levels of services may represent a greater opportunity in a global competitive arena especially for supporting business performance of knowledge intensive services firms.

The potentiality of SMEs in managing service innovation through UGC is represented by the multilateral nature of open service innovation which integrate technology, business, social and customer-driven skills (Spohrer & Maglio, 2009).

According this, the empirical analysis relied on practical application of service open-innovation and R&D customer-based product development should challenge at least the open mindness of entrepreneurs in order to reconsider their strategy in a co-creative manner by considering directly to engage users in product and innovation development. Without detracting the importance of brand-equity for customers, our empirical analysis shows that participants are mostly interested in making part of contribution of new development and seeing it more adherences with their specific needs. At the same time, our findings (Table 2 and Table 3) also suggest that the use of open innovation tools promotes customer's loyalty and satisfaction by reducing the costs of consumer's participation and retention.

The user-innovators, in fact, have various non-financial motives in making up collaborations with firms such as fame, fun, altruism, and brand affinity. Moreover, users who seek to increase their "digital fame" often spend time and efforts recommending others to join the network in the hope of increasing the audience of community, then creating a wide pool of user co-creators. This appears to be an imperative for business middle class-size, particularly since on intangible and competitive advantages offered by both codified and tacit knowledge and the customer's experience linked with a service innovative furniture product.

Adopting an OI approach, SMEs tend to be more flexible in managing their business in the long-term. In this way, we have consider open service innovation as the envelope of a number of "organizational moment" (Table 1) regarding strategy, knowledge-based innovation processes, networking, technology and know-how transfer, and ICT issues.

In this regard, the present study has tried to hypothesize the contribution of OI and UGI can give on innovation firm performance of SMEs by acting through with customer relationship management as well as leveraging on customers expectation.

In particular, as showed on the design model (Figure 4), the multidimensional relationship built up on SMNs between users and enterprises seems to create an "innovation customer-driven circuit", in which informations and ideas circulate voluntary and specifically within the network. In this context, at one side, firms are able to manage innovation development by reducing information redundancy; at other side, SMNs assuming the role of filter, by interpreting right informations in order to overcome idea stickiness.

In particular, as showed on the design model (Figure 4), the multidimensional relationship built up on SMNs between users and enterprises shows an interweaved path of the open innovation cycle,



driven by four dimensions such as: SMEs' performance, which attests the financial level of relationship between Service business model innovation and profitability of OI architecture expressed by Return on Sales; OI users engagement which represents the behavioral dimension, emphasizing the type of interaction and the stage of development of the process; Social Media Networks may represent the social dimension of the relationship. It represents a virtual place where users and firms interact simultaneously according to the reputation of enterprises, the commitment and the social benefits for consumers. Finally, Open Service Innovation represents the organizational level of collaboration used to measuring the degrees of intensity and openness of the main relationship. Therefore the virtual environmental complexity and the consequent need to simplify and reduce the amount of information and data coming from the users constitute the main challenge of the strategic decision-making process, especially if we consider the insights and individual side of single specific needs. Anyhow, Social Networks now exist and can offer a real chance to firms to review markets dynamics and technological challenges through a cognitive process of service and product innovation development, by offering an integrated business approach from an entrepreneurial viewpoint of consumers. Moreover, our findings have more academic implication and act as trailblazer evaluating the effect of open innovation on competitiveness of SMEs.

Notwithstanding, actually, it can be a very complex task to evaluate this relationship then, it will necessary to be more specific because, there are certain dimensions that needed to be approached from multiple angles that blend knowledge from different perspectives and claims the answers to specific research questions. In this way, by managerial side openness up the borders of an organization and the innovation process infers a type of "post managerial environment", where conventional managerial mechanisms are no longer applicable, because we reverse traditional theoretical paradigms. Even if OI scholars in management have produced widely an amount of research by investigating various aspects of open innovation, OI remains constantly tied to technological and engineering aspects. To be fair, although some important managerial implications have been identified in literature, they are underdeveloped on the field of open innovation management. Furthermore, some of the most important issues are still unexplored, especially when we consider small business segment. Most of the identified challenges arose in testing empirical analysis (the choice of dimension, the items and the literature background) affected the organizational perspective of the SMEs performance, engaged in OI. From a managerial perspective of OI collaborations, the degree of openness of the firm involved in the process suggests a further dimension of complexity related to the contextual challenges and opportunities, which is not valuable a priori. About managerial implications, we can argue that previous research often emphasized the value of legal and ownership aspect of relationship, by stipulating agreements in order to protect intellectual property

rights. From a collaborative perspective of OI, we are able to acknowledge the complex situation of how SMEs have to turn in “social” their organization and management structure, never forgetting the scarcity of financial and strategical resources. In this regard, a first implication comes from diversity management because the generation of Idea from OI project involved people from diverse perspective both organizational is social, with different cultures and benefits. Another implication for SMEs comes from co-creating strategy of user engagement, particularly how managers are able to engage the partners in innovation because the “social collaboration” via SMNs appears more complex than traditional one because the relationship is more fragile and contingent since it linked to intangible aspect such as trustiness, customers’ loyalty and firms’ reputation. In this regard, the communication and interaction is no guarantee for development of trust, especially in situations where the participants in the collaboration have very different perspectives (Newell & Swan, 2000). Finally, the difficult to realize oOpen service innovation for SMEs is associated with e-collaboration. We can determine users as heartless and faceless then implying a quite degree of emotional control and coordination, as well as a strong belief in rationality in human behavior. This creates the condition of equality between parts involved in the relationship, guided by principles of reciprocity which impose flexibility and caution in the collaboration by requiring firms a collaborative and non-hierarchical approach in order to prevent negative spill-over (Han et al., 2012).

## CONCLUSION, LIMITS AND FUTURE RESEARCH PERSPECTIVES

Co-creation and familiarization with the open innovation model can provide strong competitive advantages to SMEs, especially for those less innovative which suffer of a gap in competitiveness on the market, drastically reduced due to globalization and hyper competition (D’Aveni, 2010). The article seeks to describe one of the first efforts made by authors to create a new value-added strategic framework which emphasizes the relevance in adapting OI for small and medium firms operating the service industry in UK. It appears that open innovation and more precisely service open innovation constitutes new way road to survival for manufacturing middle class. Innovation performance can be considered the outcome of an open-innovation approach. In a nutshell, the OI has accelerated the evolution dynamic of the stages of business development that does not always (and not more) proceeds by respecting incremental steps but, otherwise, for technological leaps. This is particularly true when the innovation process is evaluated, developed and sustained by lead user (Booz, Allen & Hamilton, 1982). Theoretically, we prove that OI practices have an effect on all four dimensions outcomes on conceptual framework (Table 1). SMEs performance, OI users engagement, Social Media Networks and Open service Innovation was seen that have an effect directly on the learning perspective and indirectly on innovation performance, as result of the relationship with user-

consumers. In this regard, should be read the principle academic implication of this interest research which redefining the boundaries of innovation management for a long time considered linked by a dyadic relation with technology development. Alternately, this research has shown that innovation in addition to R&D management is positively affecting by other business performance parameters also represent internal process perspective and customer satisfaction as well. In particular, by evoking relevant contributions on the main field of research, we are able to identified three items for each dimension adopts to represent the main research question. Currently, very few contribute in this regard is able to find out a multi-lateral correlation between OI paradigms and Innovation performance of SMEs. The framework developed strongly supports the idea that the use of OI practices influences directly the strategy highlighting that SMEs are increasing open approach to innovation, more than larger enterprises (Spithoven et al., 2013). In this regard, with a robust test, statistically, we demonstrate the impact of OI model on the business performance between all manifest endogenous and exogenous variables (Anderson and Gerbing, 1988; Chin, 1998). According this, SMEs must foster increased innovation flows both within and between the stakeholders, especially customers. This concept opens an opportunity for further research development, by proposing for instance the revisitation of theoretical framework enlightening the Quadruple and Quintuple Helix Models (Carayannis & Campell, 2011; Carayannis et al., 2012) or, alternatively, by extending empirically the relationship with other stakeholders. Alternatively, recognizing its importance, the analyses of the knowledge management process via SMNs which has not been argued from us may be a part of the further research development. Moreover, other future avenues for research could include improving the evaluation framework by extending dimension and items considered so that it can be applied to companies operating in different contexts. Bias linked to the evaluation framework could be reduced if the evaluation is carried out by recognizing a pro-active role also for firm's actions in engaging user-customers via SMNs.

Obviously, the present work is not exempt of limitations. Mainly, the first concern regards the appropriateness of research question. In particular, we have to consider if open innovation be completely developed in the virtual and ubiquitous environment or, cause of technological progress, open innovation can consider on first stage? In effect, meanwhile a new generating idea evolves, the management of open innovation becomes increasingly more knowledgeable but more difficult as well. In this regard, the middle business class continuously lacks of capability, knowledge and skills, preventing the OI model application.

Subsequently, we need to consider a theoretical limitation because underline literature contributions is not the only reference to the open innovation theory. In particular, we focus our attention on small

and medium enterprises then the theoretical background suffers of an exhaustive comprehension of the entire field of research.

A second limit of this inquiry is linked to empirical development. The evaluation model is composed of 12 items which we believed be the most representative OI mechanisms applicable to business of small and medium size. Since this we are testing the significance of the analysis, we examining the association between the latent and manifest variables, evaluating the significance of bootstrapping.

Another limitation which should not be overlooked when investigating innovative entrepreneurship is the lack of consideration of a multidisciplinary approach. In particular psychological traits, individual characteristics and environmental features have been ignored. It is important to include the perspectives from cultural theory, consumer sociology and political economy when trying to understand the essence of generating user content. It seems obvious that say the main relationship need more than singular disciplinary theories to help us understand the intricate relationship between OI and social and technological performance. Anyhow, the present research, due to our background, should be widespread among entrepreneurial scholars. Conceptually and methodologically, in this article, we have argued for the articulation of OI practices as a complex concept involving not for his cultural role as a facilitator of civic engagement and participation, but only for his economic meaning as a creator and consumer of new innovation. Indeed, from a different perspective, this limitation might represent strength to leverage on. Hopefully, by proposing new contributions about this topic, academics could include other perspectives for enriching future analyses and forthcoming researches. Finally, open innovation models are seldom met in empirical literature. A deeper knowledge about the mechanisms and practices of OI model could be gained by investigating a number of different case studies in the field. Although holistic, our sample considers OI practices starts from SMEs then there might be interesting to extend the research model to the large ones or alternatively differentiate empirical findings by sectors or by country of Origin.

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## INFRASTRUCTURE AS A DETERMINANT OF ENTERPRISE DEVELOPMENT WITHIN THE ACADEMIC ENVIRONMENT IN POLAND

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### ABSTRACT

The aim of the study is to analyze the impact of infrastructure on the development of entrepreneurship within the academic community in Poland. Transfer of innovative knowledge and the practical application of research results within the economy which at the same time present opportunities for companies facilitating rapid growth are the most important tasks of the academic community of Poland. Infrastructure it is one of the primary determinants of the development of academic entrepreneurship in Poland. Appropriate infrastructural facilities satisfying the needs of representatives of both science and business are the basis on the development of entrepreneurship within the academic community in Poland.

**Keywords:** *infrastructure, academic entrepreneurship, Academic Business Incubators, Poland*

### INTRODUCTION

In Poland academic entrepreneurship is a relatively new phenomenon which is rarely used for the development of economic activity. Literature on the subject points to a number of barriers limiting and often preventing economic activity of the scientific community. These include in particular: the inadequacy of formal and legal arrangements, limited access to financial resources and the assistance of highly qualified executives. Other obstacles encompass risks associated with the specific character of the intellectual property market, problems with the estimated value of a product, the formal description of the market as well as the clarity of property rights. Development of academic entrepreneurship is dependent on many factors. This applies in particular to problems connected to the science, research and education sectors which are sources of research and development and which provide a skilled workforce, training opportunities and potential entrepreneurs from among staff and students. Development of the local environment for innovation and entrepreneurship consisting of small and medium-sized enterprises, entities offering specialized business services, and potential customers for the products and services being offered also plays an important role. A support system, including institutions, organizations and various assistance programs such as science parks, technology transfer centers, technology parks and incubators of academic entrepreneurship, gains a

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particular importance in this respect. One of the entities which enables the connection of business with universities are Academic Business Incubators whose mission is to support economic activity of the academia - students, doctoral students, staff and graduates of universities, combating unemployment and the commercialization of tangible and intellectual goods. The aim of this paper is to discuss the essence of academic entrepreneurship and present issues faced by Academic Business Incubators functioning as an institutional form of the development of academic entrepreneurship in Poland.

The aim of the study is to analyze the impact of infrastructure on the development of entrepreneurship within the academic community in Poland. Transfer of innovative knowledge and the practical application of research results within the economy which at the same time present opportunities for companies facilitating rapid growth are the most important tasks of the academic community of Poland. Infrastructure it is one of the primary determinants of the development of academic entrepreneurship in Poland. Appropriate infrastructural facilities satisfying the needs of representatives of both science and business are the basis on the development of entrepreneurship within the academic community in Poland.

## THE ESSENCE OF ACADEMIC ENTREPRENEURSHIP

In literature academic entrepreneurship is defined in various ways. Some characteristic terms which are used include: *technology entrepreneurship*, *innovative entrepreneurship* or *intellectual entrepreneurship*.

Several examples of the definition of academic entrepreneurship are stated below:

- any kind of involvement of research institutions, academics, PhD students and students in economic activity (Plawgo, 2011).
- a new attractive mechanism for the commercialization of scientific know-how, allowing the multiplication of benefits derived by the researcher (explorer) and other research and business partners (the university, equity investors) (Banerski et al., 2009).
- activity within the sphere of transferring technology to business practice and the operation of businesses established on the basis of knowledge as well as research programs realized by students, graduate students and researchers (Ćwiek, 2012).
- business activity of people professionally connected with the school (academics) and those for whom an affiliation with the university is a stage in life, students or doctoral students, including the promotion of entrepreneurship, education concerning entrepreneurship and the activation of entrepreneurship (Banerski et al., 2009 ).

Academic entrepreneurship can therefore be understood in two ways. Firstly, it may be considered as the entrepreneurship of the university itself, as a separate well-managed and properly organized



entity. Secondly, academic entrepreneurship can be understood as entrepreneurial people associated with the university, such as researchers, academics, auxiliary and administration workers as well as students and graduates of doctoral, graduate and undergraduate programs. The university should, therefore, not only be regarded as an institution training future cadres for the economy but should also create conditions which could be used as practical knowledge by students, graduates and academics. Academic centers of the USA, a place where, after World War II, Stanford University and the Massachusetts Institute of Technology (MIT) initiated cooperation on scientific research with business, were precursors of this type of activity. Within the European Union a country that is a good example of creating academic enterprise using policies to encourage start-ups is Finland. Policies supporting the formation of academic companies in Finland are based on extensive cooperation between institutions supporting technology transfer to investors. Excellent examples of Finnish companies created on the basis of academic entrepreneurship are those dealing with the field of nanotechnology such as GENANO, KSV instruments or NanoLab Systems. Further examples of cooperation of academic centers with business practice of economic life include the University of Philadelphia (USA), British Cambridge University, the Heriott-Watt in Edinburgh, the University of Stuttgart, the Mining Academy in Aachen, the Technical University of Berlin and the University of Lund (Sweden).

Academic entrepreneurship was defined within the legal system in Poland in 2005. Principles of governing academic entrepreneurship of public and private universities are defined by the law concerning higher education. The Act of 2005 dealing with Higher Education contains provisions specifying universities as institutions which collaborate with the environment and spread the idea of entrepreneurship throughout the academic community. Academic entrepreneurship is a new way of thinking which shows that attempts to commercialize research results do not contradict the principles of research work and the attitude of the scientific community.

To take advantage of its intellectual and technical potential and the transfer of results of research and development to the economy universities can establish and maintain academic business incubators and technology transfer centers. These projects are implemented in the form of an interdepartmental entity, a foundation or a commercial company. Technology transfer centers are created in order to sell or transfer free of charge results of development work. In order to commercialize the results of research and development an institution should set up a special purpose company whose main task is holding shares of companies or creating companies with share capital dealing with the implementation of research results and development activities at the university. As a result, although SPVs and academic business incubators as well as technology transfer centers are meant to sell the results of development work, the tasks of the SPV are narrower, more specialized in nature. Hence,

taking into account the parallel enforcement of these regulations, creation of special purpose entities whenever the university intends to commercialize the results of research and development performed at the State Research Unit is recommended (Barszcz, 2013).

The development of academic entrepreneurship is conditioned on a number of determinants. The primary determinant is the growing importance of "knowledge" as a production factor. The experience of other countries from within the European Union confirms that the current model of a scientific institution, including the university, is being supplemented to include preparation for entrepreneurial activity and developing of active and independent labor market behaviors. The academic community should get closer to business practice. Firstly, the general direction of the development of scientific institutions is to collaborate with the widely understood business world, mainly with local small business. Secondly, educational and scientific institutions should also be focused on building entrepreneurial attitudes and entrepreneurial skills among their own teaching and research staff as well as students and graduates.

A number of literary sources display interest in issues concerning entrepreneurship in the academic community (Matusiak et al., 2005):

- the "inventor-entrepreneur" model allowing current implementation of new solutions within the sphere of market and consumer expectations seems to be particularly effective for activities relating to the commercialization of new ideas from science to the economy;
- the increasing pressure to innovate leads to the reduction of time in the process of transforming a product from idea to market deployment (faster is better) which requires that business and scientific institutions as well as university scientists and entrepreneurs work closer together. Innovation is increasingly becoming a product of the environment in which the entrepreneur operates (innovative environment);
- the intensified search for new forms of increasing income of universities and research institutions by opening channels of communication and cooperation with business and, consequently, the sale of technology and research services.

External success factors of academic entrepreneurship which include differences in national legislation along with issues regarding the ownership of the discovery can also be very important. In most countries, including Poland, these rights are the property of the institution employing the creator. There are, however, countries in which the so-called professor's privilege places all the rights to the invention in the hands of its creator (some countries in which this occurs include Sweden, Greece, Italy, Finland, Romania). Other external success factors are the availability of government funding and private financing of innovation, raising public spending on research, creation of tax incentives for inventors, institutions and investors, encouraging entrepreneurship, the manner of functioning of

institutions within the sphere of a business environment including government agencies and programs, consulting firms, science parks and technology incubators which can provide new businesses with additional assistance at their early stage of development (Guliński and Zasiadły, 2005).

The development of academic entrepreneurship also includes the need to deal with a number of barriers localized both within the organization and in its surroundings. Obstacles to the development of academic entrepreneurship involve, among others, organizational barriers within the university, mental, cultural, psychological, social, financial, structural or information barriers. Listed among obstacles to the creation of business stemming from academia are: imperfect procedural solutions, limited access to financial resources and highly qualified managerial staff and the lack of sufficient awareness within the academic community, especially of university management. At the same time this activity is fraught with considerable risk because it is difficult to predict if the proposed product will meet market demands and whether those qualitative and quantitative parameters, demand limitations, which have been foreseen for the technology being developed, can be met (Plawgo 2011).

Other limitations to the development of academic development mentioned in literature include perpetuating negative attitudes to risk-taking, negative attitudes of the scientific community to commercial activities as well as a lack of encouragement from university authorities to initiate business activity. Research conducted in 2009 by the Polish Agency for Enterprise Development shows that the main reasons that students taking part in the study were not interested in any form of business was satisfaction with their current job (57%) and fear of risk and lack of appropriate predispositions (24%). Exactly the same reasons were given by academic staff showing no intention to engage in entrepreneurship. 76% of scientists pointed to job satisfaction, and 10% to the lack of the necessary predispositions. A major problem in the development of academic entrepreneurship is the conviction of respondents that it would be difficult to reconcile it with their scientific work. This view was presented by 63% of respondents and, at the same time, 40% of them were of the opinion that they would have a problem with overcoming this barrier (Zbaraszewski, 2009).

Entrepreneurship within the academic community in Poland has to overcome, therefore, numerous obstacles to function at all. This is primarily due to the current legal system and to organizational constraints, both within the economic sphere and of mentality. Overcoming limitations can promote the creation of channels of technology transfer and innovation between universities and the economy. According to Berkhout, an entrepreneur is seen as an entity bearing the risk arising from uncertainty. However, in order to reduce the uncertainty of income from self-employment, it is more and more associated with the regular part-time work (Berkhout et. al., 2010).

J. Baumol argues that the allocation of entrepreneurship resources is a mechanism for transferring institutional impulse into the economy (Baumol, 1990)

The development of an entrepreneurial attitude is always a very individual matter, but in the economy there are a number of divisions and types of entrepreneurship. The external and internal entrepreneurship can be distinguished. The external entrepreneurship is addressed to our environment, we have to deal with it when we are developing our own commercial venture. The internal entrepreneurship occurs when we use our characteristics and skills needed by the company, a team of people we work with.

Gibb, on the other hand, recognizes the role of small and medium-sized enterprises in supporting the process of maintaining management of entrepreneurial attributes of young people by providing standards, role models and insight into independent business processes (Gibb, 1987).

According to S. El Harbi Sana A. and R. Anderson, the establishment of appropriate institutions produces beneficial effects in the form of dynamic effectiveness of the economy. This reinforces attitudes that are conducive to progress. Therefore, there should be adequate economic infrastructure built, supporting good entrepreneurship and associated innovation (Harbi and Anderson, 2010).

## **THE IMPACT OF INFRASTRUCTURE ON THE DEVELOPMENT OF ACADEMIC ENTREPRENEURSHIP IN POLAND**

Infrastructure is one of the key factors affecting the development of economic activity of the academic environment in Poland. Proper infrastructural facilities satisfying the needs of the scientific world as well as of business are the foundation of innovative development of the nation.

Science and technology parks as well as centers of academic entrepreneurship are very important elements of infrastructure. These institutions have at their disposal tools which facilitate and support cooperation of business with research centers. They are therefore conducive to stimulating innovative development of the economy.

Science and technology parks can, therefore, be perceived as innovation systems which may be scaled down but which are very functional and essential to a modern economy. They are a place of creating and perfecting innovative solutions and they enable genuine cooperation of science and business. Business incubators are, in turn, organized economic complexes possessing the necessary facilities for the development of innovation as well as the technological and intellectual capital. Their activity is aimed at supporting start-ups and concerns two main areas - access to office space and to business services. Recently in Poland, business incubators have become the domain of research centers – they are established by universities, both public and private, in the form of centers for entrepreneurship. Academic Business Incubators (AIPs), created through the use of university and EU funds constitute a

nationwide network of support and development of entrepreneurship for students, alumni and faculty (Wierzyński, 2012).

The International Association of Science Parks (IASP) in November of 2002 adopted a definition of a technology park (scientific, research, etc.) as an organization which is managed by qualified professionals and whose aim is to improve the well-being of the community in which it operates through promoting innovation, competition among entrepreneurs and knowledge-based institutions (Bąkowski and Mazewska, 2012).

42 technology parks operated in Poland in 2014. Most parks were located in the provinces of Wielkopolska, Silesia (6 each) and Lower Silesia (5). Technology parks are usually located in cities or in their proximity.

International experience confirms that one of the success factors of technology parks is their closeness to a university which is active in the area of academic entrepreneurship and effective multi-level networking contacts with the scientific community. They facilitate the development of cooperation between the academic environment and business which favors the merger of a market-oriented offer of representatives of science and expectations of business. Parks should therefore support the commercialization of research results.

Transfer of knowledge from a university to a business is one of the functions of science and technology parks mentioned in literature. These parks are most often established by universities or sustain other strong links with them - some conduct workshops or maintain whole university managed entities on their premises. Now-a-days typical services of these kinds of parks include access to the infrastructure of developmental projects as well as technology testing based on the results of research from universities (the function of "technology incubation"), brokerage and organizational support for R & D projects ordered by or as part of cooperation with enterprises, cooperation with university technology transfer centers or, at times, even fulfillment of the role of such a center, incubation of spin-out companies which originate from universities and supporting their development. According to experts the future integration of the park with the university will be even stronger and will influence both partners. Parks can support universities in their educational functions by conducting classes on entrepreneurship, "sharing" their employees as lecturers, transferring knowledge related to the practical aspects of the functioning of a given field that is being developed in the park, allowing access to research infrastructure for educational purposes, conducting practical classes and participation in the exchange of internships with park tenants and customers as well as affecting the curriculum (based on their knowledge of market needs gained from their customers) (Matusiak, 2011).

Key processes supported by the parks include: the ability of tenants to utilize the park's infrastructure, flexible modification of the park's offers to fit the needs of their tenants, building of active networks of cooperation, obtaining of financing and the effective support of commercialization. On the other hand, key assets held by the parks consist of their infrastructure including offices as well as laboratories or spaces for test or prototype production, a qualified work force fulfilling the role of innovation brokers, and supplementary processes connected to security, maintenance or IT services (Bialek-Jaworska and Gabryelczyk, 2014).

Another element of technical infrastructure effecting the development of entrepreneurship are Academic Business Incubators (AIP). Most often they function as interdepartmental facilities directly subordinate to the Rector or Vice- Rector and are part of the institutional structure of the entrepreneurial model of the university.

Activity of academic business incubators usually is initiated by the academic community. Their aim is to assist the preparation of the establishment of a company and the initial assessment of its chances for achieving market success. The incubators carry out their statutory tasks within the fields of education and promotion of entrepreneurship and support efforts to commercialize new products and technologies. The goal of supporting academic entrepreneurship requires their active involvement in the educational processes through the use of tools such as (Bąkowski and Mażewska , 2012).

- promotional events related to entrepreneurship,
- university competitions for development of business plans for students, graduate students and young science lawyers,
- organization of training and consulting for potential academic entrepreneurs,
- creation and development of centers of academic creativity,
- creation of a wide network of external contacts of risk investors, alumni associations and other business support institutions.

Academic incubators generate many benefits for the university by using tools such as (Bąkowski and Mażewska , 2012).

- making the educational offer of the university more attractive and improving the image of the university,
- improving relations with society and local businesses,
- increasing revenues from collaboration and technology transfer to companies established by graduates,
- increasing orders and research sponsorship,
- obtaining additional funds from programs supporting technological entrepreneurship,

- providing additional income opportunities for students and research, engineering and technical employees.

The Academic Incubators of Entrepreneurship is a network of 50 incubators in various cities of Poland.

City (Number of incubators)	Brief characteristics
WARSAW (7)	<p>AIP Incubator of the Warsaw Agricultural University - since 2004 it has helped more than 1,000 startups and currently supports more than 200 of them. It enables business from any industry.</p> <ul style="list-style-type: none"> <li>- AIP Incubator of the Warsaw Agricultural University - one of the first business incubators in the country has been in operation for more than eight years and includes more than 500 companies.</li> <li>- AIP Incubator of the UW, Department of Economics is located in the very center of Warsaw and combines expertise from more than 50 departments of the largest academic center in Poland.</li> <li>- The Warsaw University of Technology AIP Business Incubator is also located close to the center of Warsaw. It helps to transform technological projects into well-functioning companies.</li> <li>- AIP Incubator of the Lazarski University in Warsaw - the only incubator in Warsaw which is fully adapted for disabled people. It offers up to date computer equipment and a conference room for 12 people. The office is available 7 days a week, 24 hours a day.</li> <li>- AIP Incubator of the Vistula Academy of Finance in Warsaw</li> <li>- AIP Incubator of the University of Social Sciences and Humanities in Warsaw</li> <li>- AIP Incubator of the Warsaw University - Faculty of Management</li> </ul>
BYDGOSZCZ (4)	<ul style="list-style-type: none"> <li>- AIP Incubator of the University of Economy in Bydgoszcz –the incubator is located in the city center. Its strengths are convenient location and a large surface area (111 m<sup>2</sup>).</li> <li>- AIP Incubator of the University of Technology and Life Sciences in Bydgoszcz - there is a coworking space for startups and a big hall which can be turned into a place of training or a photography studio.</li> <li>- AIP Incubator of the University of Bydgoszcz</li> <li>- AIP Incubator of the Collegium Medicum UMK in Bydgoszcz</li> </ul>
LODZ (3)	<ul style="list-style-type: none"> <li>- AIP Incubator of the University of Lodz. The incubator stands out because of its large work space. Its conference room can accommodate up to 30 people allowing the organization of training and mini-conferences. The coworking area has 6 fully-equipped work spaces. Additionally, free parking is available in front of the building.</li> <li>- AIP Incubator of the Social Academy of Sciences. It has an intimate conference room and three coworking spaces</li> <li>- AIP Incubator at the Higher School of Computer Science and Skills</li> </ul>
GDANSK (3)	<ul style="list-style-type: none"> <li>- AIP Incubator of the Gdansk University - the oldest incubator in Tri-City Area,</li> <li>- AIP Incubator of the Gdansk University of Technology – has been in operation since December of 2013. Training, mentoring or loose networking meetings occur at the incubator every day.</li> <li>-AIP Incubator of the AWFIS - Poland's only incubator operating at a university with a sports profile. It specializes in startups which promote a healthy lifestyle.</li> </ul>
BIALYSTOK (3)	<p>Three incubators located near universities and municipal offices function in the city.</p> <ul style="list-style-type: none"> <li>- AIP Incubator of the WSFiZ in Bialystok – The AIP Incubator is located at the School of Finance and Management. The location is very popular with start-ups confirmed by the fact that so far access cards for this office have been used 20 565 times. Startups have at their disposal a coworking space consisting of 6 capsules with all the necessary equipment to work effectively and use of the conference room.</li> <li>-AIP Incubator of the University of Bialystok – The Incubator is located in the students' dormitory. Available to startups is a coworking space consisting of 3</li> </ul>

	capsules and a conference room. -Another AIP incubator was created at the City Hall of Bialystok
LUBLIN (2)	- AIP Incubator WSPiA in Lublin – is equipped with 5 independent work spaces equipped with computers, internet access and a laser printer. At companies' disposal is also a small conference and training room for 8-10 people equipped with an LCD TV, a camera for video conferencing, a multimedia projector and an array of glass boards to draw up business concepts. - AIP Incubator at KUL - offers 4 computer stations equipped with computers and a conference and training room for up to 6 people equipped with an LSC TV and a flipchart.
RZESZOW (2)	- AIP Incubator of the University of Rzeszow – over 60 companies are active within the incubator - AIP Incubator of the UiTM in Rzeszow
KATOWICE (2)	- AIP Incubator of the University of Silesia in Katowice – in terms of area it is the largest incubator in Silesia and one of the largest in Poland (its surface area is 120 m <sup>2</sup> ). Operates as part of the largest academic center in the region. - AIP Incubator of the Gen. J. Ziętka Silesian School of Management.
WROCLAW (2)	- Wroclaw AIP Incubator at Bank Zachodni WBK - the largest incubator within the network of incubators – with an area of 200 m <sup>2</sup> . The incubator has a large coworking Space, a meeting room for 4-6 persons equipped with a TV, a training room equipped with a projector and multifunctional device. - AIP Incubator of the University of Economics in Wroclaw - consists of 6 coworking stations equipped with computers and a meeting room for 8 people equipped with a TV, a projector and whiteboard.
POZNAN (2)	- AIP Incubator of the Poznan University of Economics. There are 5 workstations in its coworking space and a conference room for 6 people. -AIP Incubator of the Adam Mickiewicz University in Poznan. Its coworking space consists of 5 workstations, and a conference room which will fit from 6 to 16 people.
SZCZECIN (2)	- AIP Incubator of the University of Szczecin - AIP Incubator of the Pomeranian Medical University

Table 1. Selected Academic Incubators of Entrepreneurship in Poland

Source: <https://inkubatory.pl/> (accessed 10 February 2016).

A significant aspect for working toward the creation of academic entrepreneurship in Poland is the project being realized by the Academic Incubators of Entrepreneurship titled "the Road to an Enterprising Poland". The goal of the project is to build and implement a combined system for the creation of academic entrepreneurship in Poland consisting of institutions such as the Academic Incubators of Entrepreneurship and the Academic Incubators of Entrepreneurship Business Links, which cooperate with one another. The main goal of the project is the creation of a pre-incubation – incubation system offering services promoting innovation for people starting businesses and testing their ideas within the framework provided by the Academic Incubators of Entrepreneurship as well as incubation services for new businesses, especially technology companies, which have completed their pre-incubation phase, took advantage of the Academic Incubators of Entrepreneurship and, in a natural way, can move on to the incubation stage and obtain support of Business Links incubators. Also important is the fact that the "Road to an Enterprising Poland" project is mainly directed at



people connected to the academic environment who have not officially registered a business as well as those who have and seek an opportunity to utilize the support of an incubator.

The "Road to an Enterprising Poland" project, financed through funds obtained from the European Union, has been developed by the Academic Incubators of Entrepreneurship Foundation and has as its aim the development of modern, promoting innovation services for SMB sector as well as supporting the implementation of innovative organizational, technical and IT solutions. Activities mentioned above are being realized through the creation of a pre-incubation system whose framework supported the creation and operation of over fifty incubators and incubations which in turn have resulted in the establishment of nine AIP Business Links. The realization of this project, possible through EU funds, brought about the achievement of effects which in their scale are, so far, unprecedented in Poland and have resulted in the establishment and rapid development of new, innovative businesses all over Poland. It should be stressed that the realization of the "Road to an Enterprising Poland" project has been based on the analysis of foreign experience gained during study visits (in places such as the Silicon Valley, China, India or Israel) as well as through consultations conducted with Polish and foreign experts and authorities on the subject of entrepreneurship. Aims of the project include the modernization and development of the potential of the business environment providing services promoting innovation for start-ups through the activation of 50 modern Academic Incubators of Entrepreneurship, which fulfill the role of AIP pre-incubators, and 9 Business Links or so called AIP BL enterprise centers.

Two ecosystems of innovation promoting services for AIP as well as for AIP BL have been created within the project, ecosystems which have been integrated and implemented through the use of a specialized IT system. The "Road to an Enterprising Poland" project is part of initiatives inspired by the European Innovation Action Plan which has as its aim the stimulation and development of entrepreneurial attitudes in Europe. The total worth of the project, which in its initial phase gained approximately 25 million PLN in funding, was expanded to 65 million PLN. The realization of the project consists of the creation of a modern network of Academic Incubators of Entrepreneurship and groups of technologically advanced centers of entrepreneurship or AIP Business Links.

## SUMMARY

In conclusion it can be stated that academic entrepreneurship based on innovation is an essential element of the innovation policy of the state. It, therefore, requires the development of appropriate legislation and the creation of appropriate regulations. Reorientation of universities to cooperate with the business community is a long-term process that requires changes in the mentality of the academic community and relevant internal regulations of schools. The transfer of knowledge from science to

business will be more efficient when support is provided both at the national as well as the regional level. Factors listed in literature which have a favorable effect on the efficient cooperation between businesses and universities along with direct financial support, technology transfer, and business contacts are all a part of appropriate infrastructure.

Growth of academic entrepreneurship in Poland is difficult to imagine without necessary infrastructure. Both the process of pre-incubation as well as the establishment of a technology transfer center at a University requires office space which has been adequately equipped with telecommunication devices, software and furniture. Especially important for these processes was the 1.3.SPO WKP28 (2004-2006) Initiative which provided funds for consulting services, promotion of, construction of academic incubators and, its most important aspect, investment into academic incubators. It turned out, however, that schools could not apply for those funds and that they were reserved for science and technology, industrial and technological parks. Nevertheless, in some cases funding for the construction of technological incubators were granted to science and technology parks connected to universities, including the Wroclaw University of Technology, the Adam Mickiewicz University in Poznan and the University of Lodz and the academic incubators functioning within the framework of those universities also benefited. As a result the year 2006 saw the creation of the first in Poland technological incubators. Other facilities were established with funds guaranteed for this type of investment in subsequent periods of the program. The possibility to gain additional funding for the operation of technology transfer centers from the structural funds (ZPORR29 2004–2006, initiative 2.6.) spurred some universities to intensify the activity of existing or about to be established new academic technology transfer centers (like those from the Warsaw University, the Jagiellonian University, the Adam Mickiewicz University in Poznan or the Wroclaw University of Technology). Thanks to the funding identified above incubators gained computer equipment, furniture and operational resources. It is foreseen that within the next few years the structural funds of the EU will not lack funds for the continuation of activities connected to the operation of Academic Incubators of Entrepreneurship (Gulinski and Zasiadly, 2005).

Technology, space, computer and multimedia equipment as well as communication and IT systems supporting the development of centers backing entrepreneurship in Poland stimulate all types of business activity. Infrastructure plays a significant role in the growth of a given entity (country, region or university). It is a factor of development. It can be ascertained that the correct development of infrastructure leads to the development of entities like universities, countries or regions providing foundations for the growth of economic activity in Poland.

Our analysis has shown that the Academic Incubators of Entrepreneurship significantly influence the infrastructure level of centers supporting the development of economic activity in Poland stimulating

various types of economic enterprise which, in turn, affects the growth of entrepreneurship of Polish society in regards to investing into their own businesses. The "Road to an Enterprising Poland" project, financed with EU funds and developed as well as realized by the Academic Incubators of Entrepreneurship Foundation, is an example of such activity.

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## THE ROLE OF INDIGENOUS KNOWLEDGE IN DISASTERS AND CLIMATE CHANGE RESILIENCE. A FIELD STUDY IN SURKHET AND DAILEKH DISTRICTS IN THE MID-WESTERN REGION OF NEPAL

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### ABSTRACT

This research aimed to study the role of indigenous knowledge on climate change and disaster resilience of local communities living in Surkhet and Dailekh districts of Nepal. The importance of including indigenous/local knowledge (IK) in the programming of DRR and CCA has been recently internationally recognized, because of the growing attention around the concept of resilience and its focus on what is already in place, instead of what is missing from an affected community. The principal objective of this thesis has been to understand the main characteristics of IK in the studied communities and analyse its role in the disasters and climate change resilience. The investigation started with a literature review of the main disciplines related to disasters and climate change, in order to build up a theoretical framework that would have entailed a comprehensive overview of the IK applied to community resilience. Through the FGDs and transect walks a field study of two weeks has been conducted, in order to collect primary data information and apply the theoretical framework designed. The analysis of the findings lead to the conclusion that the sampled communities living in Surkhet and Dailekh have an extensive awareness of the reasons behind the occurrence of natural disasters and climate changes, while preserving their beliefs and local practices to cope with the natural challenges. Nevertheless, the indigenous coping mechanisms and adaptation practices proved to be not resilient; the practices that might have worked in the past are not effective anymore, and the few indigenous coping mechanisms are too weak to be a reliable help when a disaster strike. Similarly, the changes in the climate are too structured for the IK of the studied communities to be strongly effective. In conclusion, while the IK for disasters and climate change plays an important role for the communities living in Surkhet and Dailekh, the lack of physical and economical resources keeps them very vulnerable and impede them to be fully resilient.

**Keywords:** *Climate change, environment, agricultural, focus group, Nepal.*

## INTRODUCTION

The above statement comes from an analysis made by O'Brien et al. (2006), who define the meaning of resilience in such a way that it comprehends the main debates around the concept and its applicability in the humanitarian world. It is important to emphasize the distinction that O'Brien et al. (2006) make between what is missing in a crisis and what is in place, in terms of resources and adaptive capacities. The key revolution around the concept of resilience relates to a focus on what is actually already in place, and build on that to enhance the capacity of coping with natural disasters or climate change consequences of a certain community (Elasha et al. 2005). The basic concept of resilience thus entails a focus on adaptive capacities: resources with dynamic attributes. These attributes are considered dynamic because they are likely to change when faced with a certain disturbance or shock, which triggers the adaptation capacity (Norris et al. 2008). This shift from reducing vulnerability to increasing the adaptive capacity is not new in literature (Dekens 2007). Recent studies on resilience have recognized the importance of local knowledge and practices to cope with natural hazards (Kelman et al. 2008) and adapt to climate change (Berrell & Phillips 2013). Indigenous/local knowledge is a type of knowledge that is part of a communities' behaviour and lifestyle, which is passed through generations and internalized by people through a process of socialization (SAARC 1999). The importance of indigenous/local knowledge when it comes to Disaster Risk Reduction (DRR) and Climate Change Adaptation (CCA) has recently been recognized internationally and several efforts are made to understand if a permutation between them would improve the effectiveness of disaster risk preparedness and climate change adaptation and mitigation. For what concerns indigenous knowledge in disasters preparedness, it refers mainly to building techniques for disaster-resistant houses, interpreting the signs in the environment to anticipate a natural hazard, understanding unusual appearance and movement of wildlife, using local legends/proverbs to raise awareness on climate-related problems and relying on social networks of a community to cope with disasters effects (ISDR 2008). Regarding the IK for climate change, the main features that characterize it are the awareness of the changes in the climate, comparing the weather patterns between 10 or 20 years ago and now, using climate-resilient agricultural local practices, noticing the changes in biodiversity and in the ecosystem and preserving natural resources (Nakashima, D.J., Galloway McLean, K., Thulstrup, H.D., Ramos Castillo, A. and Rubis 2012; Chhetri et al. 2012; Chaudhary et al. 2011).

The goal of this research is to study the use of indigenous knowledge (IK) for disaster preparedness and climate change, and investigate what their leverage is in community resilience. In other words, the research aims to understand the IK on disasters and climate change of a given community, to see what their local practices and beliefs are, and how these contribute to their resilience. In order to study

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the application of this concept in practice, a field research was conducted. The districts of Surkhet and Dailekh in the Mid-Western region of Nepal have been selected as the field setting. Nepal has been selected because of its long experience with natural disasters (Aryal 2012; Jones et al. 2013) and because similar studies have been conducted in the country (Chaudhary et al. 2011; K.C. 2013). However, no research has focused on IK applied to both natural disasters and climate change specifically. Another reason for choosing Nepal is that it is a country where hazards triggered by the climate change are constantly increasing, and therefore the link between the climate change and disasters is already embedded in the weather patterns. This research focuses on investigating what the role of indigenous/local knowledge of the communities in Surkhet and Dailekh is on disasters preparedness and response, as well as on climate change adaptation, focusing on the communities' self-vulnerability assessment, as well as their awareness and coping mechanisms.

## **AIM AND METHODOLOGY OF THE STUDY**

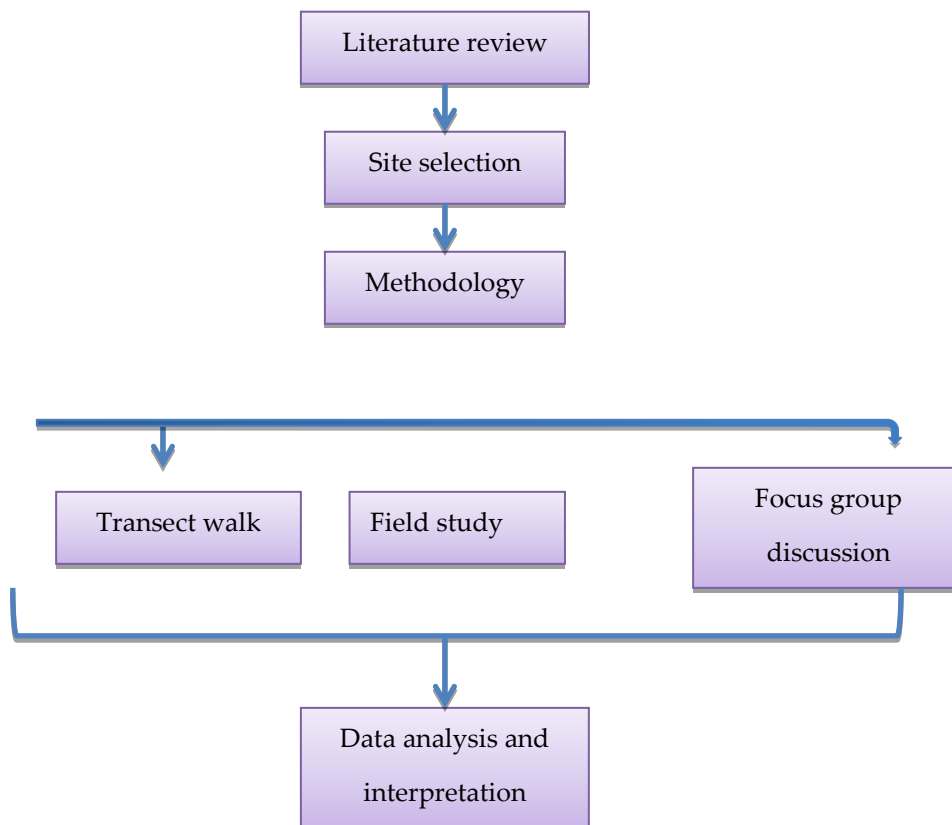
The principal objective of this research is to identify the role of indigenous/local knowledge in the resilience to climate change and natural disasters in two districts of Nepal. In doing so, it will become clear through the methods chosen for this research where these two disciplines could merge and to what extent IK could play an important role in the coping mechanisms and adaptation measures towards natural disasters and climate changes. The consequent scope is to understand if the IK of the studied communities still constitutes an important tool for the resilience of rural communities, and two different districts (Surkhet and Dailekh, in the Mid-Western region of Nepal) have been chosen, in order to make a comparison and strengthen the outcomes of the research.

The specific objectives, that would aim to achieve the overall objective, are:

1. Identify the importance of the combination of DRR and CCA and study the role of indigenous/local knowledge in this combination
2. Identify the indigenous/local knowledge on DRR and CCA in two VDCs in two districts of Nepal. I will make a comparison between a VDC which is located in a flat and cultivated area (Surkhet), where the temperatures are quite high in comparison with another mid-hilly area, where the environment is slightly different (Dailekh). The analysis will be mainly focused on the different type of indigenous knowledge assessed, rather than on the physical context of the two districts.
3. Identify the state of knowledge, both in terms of awareness and adaptation measures, towards natural disasters and climate changes of the selected communities, and see the similarities and the differences of the two case studies.

4. Finally, to see as a whole how the IK of the selected local communities is contributing to the resilience to disasters and climate change, trying to understand where the limitations and challenges are, and where some lessons learned can be built. The discussion will be built around the concept of resilience and, under an IK perspective, the adaptation level of the studied communities will be analysed.

The conduction of this research has been done through the use of various tools, triangulating the focus group discussion (FGD) and transect walk. The reason of the use of FGD is given by the fact that the topic of IK in disasters and climate change is not easy to grasp.



We started this research through an extensive literature review that lasted for several months, as I added sources along with my data collection and analysis, and I then decided where to base my research, in Nepal. Once in Nepal we developed an schedule design (the FGD) together with secondary data collection of the most important Nepalese developments in terms of policies and researches. In this regard, the informal meetings with important stakeholders in the field of DRR and CCA in Nepal significantly helped us to frame this research in a very context-specific manner. After framing my data collection tool, we went to the field and we performed the research. Back in Europe we started with the writing, and especially the data analysis and discussion. While analysing the data and discussing the findings, we went back to my literature to consolidate what I discovered in the field with already existing studies. This strategy helped us to make the research more scientific, and

knowing the limitation of this study given the methods and the small-scale character of the research itself.

## FOCUS GROUP DISCUSSION

The FGD structure follows in principle the same outline of the survey, but without going into too much details about the potential answers of the respondents. Considering that the questionnaire is very much structured, because even if there are some open ended questions, the majority of the questions are closed and with very specific answers, with the FGD we decided to have a general skeleton through which direct the questions and leave the floor to open interpretations and added value that could come out only with a very open structure. This decision comes from the fact that assessing IK for disaster and climate change is extremely difficult, especially because it is context-specific, most of the time orally transmitted and probably hard to measure in areas where the impact and risk of disasters/climate change is low, as it is the case for the VDCs of Surkhet and Dailekh. The questions we have chosen for the questionnaire are as much as possible close to what we expected to find in these two VDCs, according to other studies in the area or Nepal in general (Singh et al. 2011; Gum et al. 2009; Chaudhary et al. 2011), but it is with the FGD that it is really conceivable to grasp in deep the fundamental indigenous/local knowledge of the communities interviewed, as the goal of it was to let them speak and contribute to the topic, rather than me suggesting how to respond.

In order to have a clear idea on how the FGD was structured, a clarification must be done. As it is widely affirmed in the literature (Krueger 2002), it is very important, when designing a FGD, to have all the possible categories in terms of age and gender represented. For this reason, I decided to perform 10 FGDs<sup>1</sup> in total and divide them per category in the following way:

- 4 FGDs with women only.
- 2 FGDs with men only.
- 2 FGDs with mixed people (both men and women).
- 2 FGDs with children in two different schools.

This division refers to the total number of FGDs for both VDCs, which means that for each VDC I performed 5 FGDs and divided them per category accordingly. We performed more FGDs with women mostly because of two reasons: in our field visits the majority of people available for an interview were women, and this is due to the fact that men were either at work or outside the country to earn money for the HHs (with the last being the main reason for their absence). The second



reason is that the two NGOs that helped me with the data collection had performed various women empowerment training sessions with the communities we visited, which strengthened their relationship and therefore women were more favourite to be selected as respondents.

As a general consideration, it must be noted that we slightly adjusted the FGD structure after the first two focus groups we performed, which served as a pilot and gave me useful inputs to ameliorate the FGDs to come. The final structure chosen has been the following:

### **FIRST PART: DESCRIPTION OF THE PARTICIPANTS**

1. Description of the facilitator and the importance of this study.
2. Describe yourself (age and educational level included) and what is your occupation and how many people you are living with.

### **SECOND PART: QUESTIONS RELATED TO DISASTERS**

3. What is a risk for you?
4. Why do you think natural hazards occur?
5. Have you experienced any flood/landslide/drought or any other hazard in the recent years and which were the consequences?
6. Think about a flood/landslide/drought etc. that occurred in your area and explain how you AND YOUR COMMUNITY REACTED TO IT.

### **THIRD PART: QUESTIONS RELATED TO CLIMATE**

7. What kind of changes have you noticed in the environment in the last 10 years, regarding temperatures and rainfalls?

### **FOURTH PART: COMMUNICATION OF IK**

8. Please tell us the proverbs/songs/legends that have been transmitted in your household for generations that helped you to be more aware of risks and climate pattern. Any kind of community ceremony?

9. What have your grandparents/parents/relatives taught to you in relation to adaptation to climate, awareness and coping mechanisms related to disasters? (i.e: how to build houses, what kind of crops use, how to interpret the changes in the weather)
10. How the social network within your community influenced the way you respond when a natural hazard occurs?
11. Do you have any evacuation system put in place within your community, in case a hazard strikes?

## RESULTS

In order to have a consistent outcome of the FGDs, the analysis will be done at an aggregate level, putting together the results all the four FGDs and seeing what patterns could be drawn. The following are the FGDs conducted in Surkhet, summarized per category of people and details about the participants:

**Table 1:** Focus group discussion overview

Focus group discussion overview	
Surkhet	
Day 1 – women participants	Gender: Female Number of participants: 11 Age: from 24 to 56, mostly young adults Education: Most of them got school education (very heterogeneous sample as it varied from grade 2 to grade 10) Occupation: Mainly agriculture, plus private shops HH average size: From 4 to 6
Day 2 – mixed participants	Gender: Mixed (5 men and 8 women) Number of participants: 13 Age: from 25 to 57, mostly young adults Education: Mostly illiterate, some received informal education, only 3 of them have school education (grade 6-7-8) Occupation: Crop production, agriculture and HH care HH average size: 5 people
Day 2 – women participants	Gender: Mixed (5 men and 8 women) Number of participants: 11 Age: from 25 to 50, mostly around 40 Education: Mostly from grade 5 to 9, some of them got informal education Occupation: Agriculture, retail shop, poultry and goat production, small hotel HH average size: 8 people (from 3 to 11)
Day 3 – male participants	Gender: Men Number of participants: 8 Age: from 24 to 70, mostly around 40 Education: Various school educational level (from 5 to 9), some got informal education and one is doing a bachelor Occupation: Small shop, agriculture and one student HH average size: Around 6-7

After the roundtable of sharing of information within the participants, which allowed to have a clear picture of the composition of the FGDs, the discussion started with some general questions regarding concepts such as risk, disasters, vulnerability and secondly the respondents have been asked to share their experiences related to natural hazards and describe what kind of impacts affected them. What it was important to see is their definition of risk, their idea on why natural hazards occur and the experiences they had in relation to that.

## **DEFINITION OF RISK**

The answers across the FGDs conducted are quite similar in terms of what is the most common definition of risk, and how the concept of risk is associated with natural disasters. The main trends are the following:

1. Natural hazards: the most selected options to answer the question of what is risk for the respondents has been related to a mere list of natural hazards that occurred in the communities. Those are especially floods, landslides, heavy storm, strong wind, earthquakes.
2. Sudden incidents: the second most given answer is that risk is everything that happen all at sudden and for which there is very little to do about, in order to retain the consequences. In terms of sudden incidents the majority of respondents indicated sudden diseases, the death of livestock for unexpected reasons, physical incidents that undermine the normal functionality of the HH.
3. Consequences of climate change/disasters: The last trend of the definition of risk is related with the consequences of climate change and disasters, meaning that a risk for some of the respondents is the destruction of crops by floods, destruction of houses by landslides/floods, low crop production due to poor rain and long drought, financial crises related to all the losses.

## **NATURE OF NATURAL HAZARDS**

Same for the definition of risk, the respondents have been ask to define why they think natural hazards occur, in order to see what is the level of awareness of the communities sampled. The main answers for the four FGDs have been the following:

1. Causal effect – wrong actions bring bad changes in the environment: many of the respondents surprisingly, for a researcher perspective, knew about the changes in the environment and what actually causes climate change negative effects and natural disaster. The communities sampled mostly affirmed that problems they are facing in their

livelihoods are due to bad habits of people and wrong actions. The ones that are mostly cited are:

- a. Deforestation causes drying up of water sources and scarcity of rainfalls, which will cause landslides and tougher drought and therefore less productivity and HH damages.
  - b. High urbanization causes bad waste management and use of materials that are not degradable, irresponsibly thrown in the nature. High urbanization also makes that the building of more houses destroys the forests and the high pollution causes negative climate effects.
  - c. Massive use of chemical pesticides deteriorate the soil quality, and therefore cause low crop production.
  - d. Open defecation causes diseases.
2. Poverty: a good quantity of the respondents pointed out the poverty and the inability of buy the necessary materials to cope with disasters and negative climate change effects as the main reason why disasters actually hit their communities. Examples given connected to the scarcity of financial resources were mainly the consequence of low education and therefore low awareness on the changes, bad materials to build houses that are less resilient to shocks, the high cost of river barriers that would prevent floods, inability to buy toilets and avoid open defecation and the use of traditional crops that are no more adaptable to the new changes in the environment. This last point will be further discussed later in the analysis.
  3. No awareness and bad coping mechanisms: some of the respondents are not aware of the reasons for the occurrence of natural hazards, and some of them mentioned that only the people who listen to the radio are aware of these changes.

## DISASTER EXPERIENCE

The last question of the section regarding natural hazards aimed to know what kind of hazards the communities interviewed experienced in their lives (and not just recently), and especially to know the consequences of them and the coping mechanisms they put in action. The answers given by the respondent kind of followed the same trend as the responses in the questionnaire, but added important details on the consequences of such hazards.

The respondents indicated, at an aggregate level, the main hazards that hit their communities, in the past and nowadays. The hazards identified are the following (in order of frequency):

- Strong storm

- Drought
- Lightening
- Landslides
- Heavy rainfalls
- Earthquakes
- Diseases
- Everyday accidents that have little to do with natural disasters (incidents, broken bones, people dying).

These are the most given answers in relation to hazards experience (mostly natural and climate hazards), from which three very interesting features came out. Kokishara, 49 years old, resumed in a sentence the main issues she is facing:

“We always suffer from drought, wilting of plants, they do not get water. There is a high presence of pests and dropping of flowers, we usually grow vegetable seed, so we should provide sufficient water but in the dry season the plant do not get enough water and the flower will fall. So in a Doku (basket) we bring the water from Bheri river and we bring it where the crops are” (Kokishara, 49 years old).

As a matter of facts, the respondents have several times underlined the fact that their coping mechanisms to handle the natural hazards abovementioned are too poor to be considered resilient, because of lack of financial resources and their local knowledge is not anymore sufficient to cope with the new changes in the climate, that jeopardize the already difficult daily situation of these communities. It became very clear from this question that these communities responded passively to their disaster experiences, many times losing relatives, livestock, crop productions, and general goods.

## KNOWLEDGE ON CLIMATE CHANGE

The strong feature of this section lies on the use of an improved seasonal calendar, that would not only look into the changes in the way crop plantation is carried out throughout the year now and 10 years ago, but also to changes in the temperature and precipitations within the same timeframe. In order to do so, given the nature of this research, the communities have been asked to particularly focus on inputs regarding precipitation and temperature, and within that give some information on how their agricultural habits changed during the time. As a result of the merge between the various answers for Surkhet, this is the outcome table:

**Table 2:** Climate change patterns

Climate change	10 years ago	Now
<b>Precipitations</b>	<p><b>Pre monsoon:</b> April/May<sup>1</sup>/June (there could be some drought in May)</p> <p><b>Monsoon:</b> May/June/July</p> <p><b>Post-monsoon:</b> October/November</p> <p><b>Cultivation:</b></p> <ul style="list-style-type: none"> <li>- We cultivated the corn in April-May</li> <li>- Nursery plantation of rice in May/June, in monsoon planted in a bigger field (June/July)</li> <li>- Wheat in October/November/December</li> </ul> <p><b>Rainfalls:</b></p> <ul style="list-style-type: none"> <li>- More rainfalls, and well distributed over the year (monsoon/winter seasons)</li> <li>- Winter rain started in November/December</li> <li>- Forests, green vegetation, so no erosion or landslides.</li> <li>- Some snowfalls</li> </ul>	<p><b>Pre monsoon:</b> No pre-monsoon – there is only late monsoon, which is the reason of late plantation</p> <p><b>Monsoon:</b> June/July-August (only here the rainfall starts)</p> <p><b>Cultivation:</b></p> <ul style="list-style-type: none"> <li>- Corn in June/July</li> <li>- Without irrigation canals they would see the rice only in August (with canals in July)</li> <li>- Wheat in December/January (low production – very low that coping mechanisms are buying wheat and rice, or migrate to India)</li> <li>- Short crops of weed in winter times</li> </ul> <p><b>Rainfalls:</b></p> <ul style="list-style-type: none"> <li>- Less rainfall,</li> <li>- No trees, no green vegetables, more disasters</li> <li>- More variable rainfalls</li> <li>- No rainfalls in winter months (December/January)</li> <li>- No snowfalls</li> </ul>
<b>Temperature</b>	<p><b>Summer:</b> Summer was colder and shorter (April to July)</p> <p><b>Winter:</b></p> <ul style="list-style-type: none"> <li>- There was some frost but it could be mild</li> <li>- It was milder</li> </ul>	<p><b>Summer:</b></p> <ul style="list-style-type: none"> <li>- Extremely hot and longer (end of March to September)</li> <li>- Longer drought period</li> </ul> <p><b>Winter:</b></p> <ul style="list-style-type: none"> <li>- Extremely cold</li> <li>- Frost more frequent (dangerous for the cultivations)</li> <li>- Less sunshine</li> </ul>

In the above table all the most important information regarding precipitations, temperature, seasons and crops plantation are clearly displayed, comparing what was the situation 10 years ago and what is the situation at the moment. What is clear from it is that in the past the weather was much more reliable, there were fixed patterns for the seasonal plantations and the temperatures were milder in summer and in winter. On the other hand, the unpredictability of the rainfalls and weather patterns in general nowadays has a significant impact on the livelihoods of the communities involved, especially for what concerns their main source of living, which is the agriculture. The rainfalls are more rare, but at the same time heavy destroying rainfalls are more frequent and causes a lot of damages, and also because of the longer droughts and the absence of a pre-monsoon season, the quality/quantity of crops are worse than in the past and it is becoming very difficult for the communities to cope with these radical changes. As a matter of facts, temperatures also changed their pattern as the respondents indicated more extreme temperatures nowadays rather than in the past, both for summer and winter

<sup>1</sup> In red, the most given answers.

(summers extremely hot and longer, and winters extremely cold with less sunshine). An interesting example of IK to resist to coldness has been given by Chandrakala:

“In extreme cold situation we feed the animals with supply feed, we boil some water in a large container and we mix the water with small seeds. We put salt in there so we manage to keep the animal warm” (Chandrakala, 74 years old).

## EXPERIENCE OF NATURAL HAZARDS

For this questions the respondents have shared approximately the same answers of the respondents in Surkhet, as the type of hazards have been demonstrated to be very similar. The experiences of natural hazards of the communities in Dailekh ranged from very recent disasters that challenged their actual livelihood, to other events that happened 30-40 years ago but for which the people still have a vivid image on. The examples given where the following, in order of mentioning:

Heavy rain/Landslide: the respondents talked about landslides (mostly caused by heavy rain) that destroyed houses, livestock and fields. The problem connected with the landslide is that the respondents affirmed that they did not have any money to recover from the event, and rebuild what has been destroyed, which triggered many unfortunate circumstances, such as the husbands going to India for work. A quote from Tila displays the difficulties encountered by the communities in terms of livelihood whenever a hazard strikes: “In June this year one buffalo and two oxen died because of the landslide, even though we had a small hut for them, the landslide killed them. A buffalo is a very costly and a it gave me a lot of money before, but buying a new one would cost 50000 rupies, too much. It is very difficult for me to continue living, because my husband is getting very old, and the oxen are too old and I am asking help to the villagers but I cannot pay back. It’s difficult because if we don’t have anything nobody will give help because they know we can’t pay back” (Tila, 29 years old).

Another aspect that came out from this section is that nowadays they would build some walls with wire nets, to prevent landslides, but given the fact that they use the stones from the river to build the walls, and that most of the time they do not have money to buy a wire, the walls they build are not resilient enough and rarely contain a big landslide. In this regard, most of the communities shared the frustration of not being able to prevent something they know is going to happen, because of lack of money and resources.

Heavy rain/Floods: Here in Dailekh the link between heavy rains and floods is also very strong. The respondents addresses the heavy rain as being the main cause of floods, which have been and are very dangerous for the HH cause they destroy the cultivated fields, fish ponds, houses that are very next to the river. An example has been given by Narisarah:

“Because of the flood in the river in my place I experienced damages in the hill and some field was destroyed, and this happened this year. The field was fully destroyed, we have planted seeds and we could not do anything because everything was destroyed. Half hectare of the land was destroyed. We can’t do anything, all the stones and mud are there and we would need a lot of money to repair it. If we would have money we would dig a canal, so the next time the flood will go to the canal instead of damaging the land” (Narisarah, 42 years old).

- Heavy wind that blown away the iron roofs.
- Systematic drought every dry season since recent years.
- Earthquake: Although not many earthquakes happened in the area in old times and recent years, many of the respondents affirmed that 30 years ago there was a strong earthquake that had a great impact on the lives of the communities. Here also, the main damages were to houses and fields.

As a general consideration, the respondents affirmed that they do not get any help, especially not from the chairperson of the VDC, because there is no money available to repair and restore houses, or general proprieties. One interesting thing mentioned is that it is not possible to receive help from the government if it the damage is only for one HH, and not the whole village.

## CONCLUSION

This paper aimed to understand the role of indigenous knowledge in the natural disasters and climate change resilience of local communities living in Surkhet and Dailekh districts of Nepal. The field visit, both in Surkhet and Dailekh, proved to be very useful to get a wider idea on the local knowledge of the communities in relation to climate change and disasters issues. The main findings, both in Surkhet and Dailekh were the following:

- The communities are well aware of the reasons that trigger natural hazards, identifying the source of them in deforestation, pollution, heavy rains and urbanization.
- The main coping mechanism towards natural hazards is the use of social networks within a community: while their anticipation and response capacity is minimal, on the other hand, considering their IK, they highly depend on the mutual help that they would give to each other in case a hazard strikes.
- There are some practices in use in IK that might help the communities to prevent natural hazards to strike but the resources they use for them are not sufficient and not resistant enough. Here is where the low economical capacity demonstrates to be the main obstacle to their resilience.



- In the communities' perspective, weather nowadays is much more extreme comparing to the past: if in the past summers were hot but bearable and winters not too cold, now the communities feel that summers are extremely hot and winters are much colder than before.
- The precipitations have also changed a lot, as the communities were experiencing a much more regular rain in the past, they knew exactly when the monsoon period would start and finish and they were having winter rainfalls. Nowadays, they feel like the starting of the monsoon period has been anticipated (around March they already feel the hotness of the summer days and they get some rainfalls) and that the weather is so unpredictable that they do not know anymore how much is going to rain in a specific year and they do not know when the monsoon would actually finish.
- Regarding the productivity of the crops, the communities have experienced a radical change on the way they used to plant crops in the past and how they do it now. As the weather is more and more unpredictable, some communities that have been part of awareness programs try to use pesticides and new specific crops that were not in use in the past; some other communities just rely on their own local knowledge that is proving to be less and less efficient, probably due to the climate change and their poverty situation.
- Especially for the communities that have not been part of any program run by the NGOs, the general feeling is that even if they have a good knowledge on the climate change, also mentioning the reasons why they think there are such changes in the environment (for example many of them said that it is probably due to deforestation and pollution), there is a lack of knowledge within the community on the new technologies in use for cultivation, which makes them less resilient comparing to the past and comparing to other communities that received such information.

As a general consideration, the communities showed to have an extensive awareness of the changes in the climate, as they experienced throughout these recent years some radical variations in the weather that contributed to an adjustment of the way they use to plant in their land fields. The majority of the people interviewed work as farmers and they have their private or shared plantations, which is the reason why they have such a knowledge on the weather changes, as their livelihood well-being depends on the productivity of their crops, hence on rainfall patterns and temperature. Besides their awareness on climate change, as a result of the unpredictability of the weather these communities faced – and they are still very much facing – many natural hazards that in some cases drastically changed the lives of the people affected. Depending on the areas visited, the problematic related to the

environment differs, but on average the main issues are related with drought in the dry season, heavy rainfall and high wind in monsoon season, and landslides.

With the use of scientific research methods (FGDs) the communities interviewed shared their experiences with natural hazards that challenged their lives and the way they try to cope with those. As briefly introduced previously, a distinction can be made between the communities that did not received any help from the VDCs nor from NGOs or other private enterprises to face their yearly recurrent problem of drought and landslides, and the ones that have actually been part of capacity building programs. For the communities that have to manage by themselves, following the practices in use in their IK, the coping mechanisms and adaptation measures seem to be not resilient anymore as for what concerns natural hazards the only effective coping mechanism is the reliability of the communities on their community's members, who would help each other to reduce the negative effects of a given hazard. The proverbs, songs and local beliefs are still in use to anticipate the coming of hazards, but their practical efficacy is very limited, because there is still a lack of resources that impede them to combine their IK with the new technologies. In regards to climate change, the communities that did not receive any external help still rely on their IK practices, which proved to be not resilient anymore to the changes in the climate. If on one side their IK helped them to be well aware of the weather patterns and changes, on the other side the farming practices that were working in the past did not adapt to what is the weather and ecosystem nowadays, which puts in serious danger the livelihoods of these communities.

The communities that have been part of some capacity building programs managed to get to know the new technologies for the agricultural plantations, they have been taught how to use the radio to listen to a women empowerment program and they learned how to organize a seasonal calendar. In fact, these communities demonstrated to have rather good coping mechanisms to face problems related with climate change, as now they know more about the diversification of crop plantation, the importance of cultivating vegetables and the usefulness of having livestock to diversify their livelihood income and sustainability. This example shows how external help can constitute a major benefit for communities that do not cope anymore only using their IK. It must be said though that this causal relationship is probably poorly demonstrable just via focus groups and observations, but there were certainly many signs of correlation between receiving the help of some NGO and have a better awareness and coping mechanisms towards environmental changes. This being said, although the general livelihood situation for the communities that received external help is better than the ones that did not receive it, it cannot be said that these communities are resilient to natural disasters and climate

change, because they are still very much vulnerable to natural disasters and the new technologies to increase productivity do not always work.

Even if it was not in the intentions of the research, a comparison between the outcomes in Surkhet and Dailekh can also be done. In Surkhet the main difficulty faced by the communities has been defined as to be drought during the dry season, to which the communities are more and more challenged every year. The scarce quality of the soil, maybe caused by pollution and other factors, is also constituting an alarming issue for the communities in Surkhet, that cannot manage to have the same productivity as they had in the past, putting in danger their livelihood sustainability. In Dailekh, even if some communities still agreed on the fact that drought is also a problem, the main issue is mostly related with landslides and storm wind – and in some cases floods – that especially this year destroyed part of the cultivation fields of many of the people interviewed. The perception obtained in the three days of visit in Dailekh was that the population there is living with the fear of the next landslide, as most of them live in slope areas, and other natural hazards as floods, for the people living downhill, and storm wind; all these put in serious danger their cultivation fields, which are the main source of their livelihood, but also their houses, properties and livestock. Their coping mechanisms are very poor and most of the time, if a hazard strikes, they are relying mostly on their social networks within the community to get some help and try to rebuild, if it is possible, what has been destroyed. Another curious aspect that differentiates the two districts is the grade with which the communities rely on their local knowledge, rather than the external one. If in Surkhet some communities showed a good understanding of the causes of the climate change and the best coping mechanisms to face it, in Dailekh the majority of the people interviewed had little knowledge about it and the way they cope has much to do with what they learned in the past through their generations and through the help of the community itself. It must be said though that in both districts the communities proved to have a strong social network that help them to face natural hazards and to cope with the low productivity, for instance with the creation of a loan system in case a household needs money for its sustenance.

To conclude, the communities in Surkhet and Dailekh demonstrated that their IK most of the time is not resilient to natural disasters and climate change, where for those that received an external help the combination of the two improves their livelihoods, but still not reaching acceptable levels of resilience. The main reasons for that are the significant lack of physical and economical resources, that would allow the communities to be more proactive and less vulnerable. The IK, through songs, proverbs, beliefs and practices could still be a useful tool in order to mitigate the damages, but it does not constitute anymore a reliable instrument to successfully face natural disasters and climate change.

Future researches on this topic should probably be conducted in more remote areas, where the use of IK might be even more present, and in communities where natural hazards are more keen to strike. Although it has been demonstrated that the communities in Surkhet and Dailekh are often targeted by natural hazards, the overall level of danger in relation to natural hazards in the districts of Surkhet and Dailekh is quite low, comparing to other areas in Nepal, or other countries in the South-East Asia and Pacific. Similarly, a deeper study into the topic, with more resources and an actual comparison between the indigenous knowledge and scientific findings, to prove their reliability, is highly suggested.

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## AN EMPIRICAL ANALYSIS OF FIRM PERFORMANCE UNDER ISO 9000 CERTIFICATION

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### ABSTRACT

This study investigates the effect of the ISO 9000 certification on the performance of firms listed on the Athens Stock Exchange. The ISO 9000 certified firms are classified into two groups: the group of firms that hold the certification for all the years that are listed (*always*) and the group of firms that initiate the certification at some point after entering the stock market (*starters*). The effect of the ISO 9000 certification on firm performance is estimated by comparing the financial performance of both certified groups to the financial performance of a control group of non-certified firms using a difference-in-differences econometric approach. The ISO 9000 certification effect is further examined by comparing the financial performance between the two certified subgroups (*always vs starters*). The empirical findings indicate that the ISO 9000 certified firms significantly outperform the non-certified firms. Furthermore, the findings reveal that firms initiating the ISO 9000 certification after entering the stock market (*starters*) are more benefited from the certification in comparison to firms that are certified for all the years that are listed (*always*).

**Keywords:** *ISO 9000 certification; Quality; Firm performance; Difference-in-differences econometric approach*

### INTRODUCTION

The popularity of the ISO 9000 Quality Management Standard, since its introduction in the late 1980's by the International Organization of Standardization (ISO), has been exposed to an unprecedented increase. The number of firms seeking to become certified every year, after demonstrating the necessary conformance to the requirements of the ISO 9000 standard so as to receive the relevant certification, is growing over time. According to the survey provided by the International Organization of Standardization, in 2013 alone over one million ISO 9000 certificates were issued across 187 countries (ISO, 2015). This phenomenon provides an indication that firms perceive the adoption of the ISO 9000 certification as a beneficial business asset, taking into account the high cost and considerable effort related to the certification process.

The remarkable adoption of the ISO 9000 certification has motivated researchers to explore whether benefits derive from the relevant certification. However, existing literature yields conflicting results regarding the impact of the ISO 9000 certification on the performance of adopting firms. A number of studies find that the effect of the ISO 9000 certification on firm's financial performance is positive (e.g. Heras et al., 2002a; Chow-Chua et al., 2003; Sharma, 2005; Terlaak and King, 2006; Benner and Veloso, 2008; Lafuente et al., 2009, Starke et al., 2012; Chatzoglou et al., 2015), while other studies find that such an effect is weak or negative (e.g. Lima et al., 2000; Singels et al., 2001; Rahman, 2001; Heras et al., 2002b; Wayhan et al., 2002; Tsekouras et al., 2002; Martinez-Costa and Martinez-Lorente, 2007). The rapid diffusion of the ISO 9000 certification in combination with the conflicting results reported by existing literature allows additional investigation on the association between the ISO 9000 certification and firm performance.

The aim of this study is to explore whether financial performance benefits are gained due to the ISO 9000 certification. In doing so, the study examines the effect of the ISO 9000 certification on the financial performance of publicly traded firms by accessing financial performance differences between certified (treated) and control (non-certified) firms using a difference-in-differences methodological approach. The ISO 9000 certification effect is further examined by comparing the financial performance within the two certified subgroups (*always vs starters*). The financial performance measures used in this study are return on equity (ROE) and return on assets (ROA).

The study contributes to existing literature by employing a sample consisting of all firms listed in a less mature stock exchange as compared to European peers. Furthermore, the analysis is based on detailed data derived from the financial reports of firms listed in the Athens Stock Exchange from 1992 to 2013, which allows accounting for the impact of measurable factors such as financial performance variables. Additionally, a novel methodological approach is followed by classifying the certified firms into two groups according to the time period that they adopted the ISO 9000 certification. The first group consists of the firms that are certified for all the years that are listing during the sample period (*always*) and the second group consists of the firms that initiated the ISO 9000 certification at some point after entering the stock exchange and are certified from that point onwards (*starters*). The control group of non-certified firms comprises those listed firms that have never obtained an ISO 9000 certification.

The findings indicate that the ISO 9000 certified firms show significantly higher financial performance in comparison to the non-certified firms. Also, the findings reveal that there are differences between the two certified subgroups in firm's financial performance due to the ISO 9000 certification.

The rest of the study is organized as follows: Section 2 presents the literature review and hypothesis development. Section 3 describes the sample and the data. Section 4 discusses the research design.



Section 5 presents the empirical results. Section 6 concludes the study and section 7 discusses the findings of the study.

## LITERATURE REVIEW AND HYPOTHESIS DEVELOPMENT

Existing literature discusses the effect on firm's financial performance due to the adoption of the ISO 9000 certification.

A number of studies report the weak or non-existent role of the ISO 9000 certification on firm's performance. The studies of Terziovski et al. (1997) and Dick (2000) find that the ISO 9000 certification is not associated with any financial performance benefits. Similarly, the study of Singels et al. (2001) finds that the performance of ISO 9000 certified firms is not better than the performance of non-certified firms. Also, the study of Lima et al. (2000), finds that there is no difference regarding the financial performance between the ISO 9000 certified firms and a control group of non-certified firms. In the same vein, the research of Tsekouras et al. (2002), finds no effect of the ISO 9000 certification on firm performance. Furthermore, the research of Wayhan et al. (2002), reports that the impact of ISO 9000 certification on the firm's financial performance, measured by ROA, is very limited. Also, the study of Heras et al. (2002b) shows that the ISO 9000 certified firms are not benefited from the certification as the certification does not lead to an increase in their profitability. Additionally, the study of Martinez-Costa and Martinez-Lorente (2007) reports that the impact of the ISO 9000 certification on company performance is negative as certified firms gain less earnings and ROA in the post certification period.

On the other hand, a number of studies show a strong and positive association between ISO 9000 certification and firm performance. The study of Heras et al. (2002a) reports that ISO 9000 certified firms are more profitable in terms of ROA in comparison to non-certified firms for a period of four years after certification. In the same line, the studies of Chow-Chua et al. (2003) and Sharma (2005) find that the financial performance of the ISO 9000 certified firms is significantly greater in comparison to the financial performance of non-certified firms. Similarly, the study of Terlaak and King (2006) finds the ISO 9000 certified plants show greater increase in production volume in comparison to non-certified plants. Additionally, the study of Benner and Veloso (2008), finds that performance advantages of the ISO 9000 certification are higher for early adopters. Also, the study of Starke et al. (2012) finds that the ISO 9000 certification is associated with an increase in sales revenues and asset turnover ratios and a decrease in cost of goods sold/sales revenues of certified firms. Moreover, the study of Chatzoglou et al. (2015) finds that the ISO 9000 certification is highly associated with overall financial performance improvements.

The conflicting results of existing literature indicate that the issue of the association between the ISO 9000 certification and firm's financial performance calls for further investigation. Therefore, the first hypothesis of the study is formulated as follows:

*Hypothesis H1.* The listed ISO 9000 certified firms do not experience higher financial performance in comparison to the listed non-certified firms.

As the methodological approach of the study introduces the classification of the certified firms into the two subgroups of *always* and *starters*, hypothesis H1 is further explored by stating the following two hypotheses H1a and H1b:

*Hypothesis H1a.* Firms that are ISO 9000 certified for all the years that are listed (*always*) do not experience higher financial performance in comparison to the listed non-certified firms.

*Hypothesis H1b.* Firms that initiate the ISO 9000 certification at any point after entering the stock market (*starters*) do not experience higher financial performance in comparison to the listed non-certified firms.

Furthermore, this study investigates the effect of the ISO 9000 certification within the population of the certified firms. As the certified firms are classified into the *always* and *starters*, the second hypothesis is stated as follows:

*Hypothesis H2.* Firms that are certified for all the years that are listed (*always*) and firms that initiate the certification at any point after entering the stock market (*starters*) are equally benefited from the ISO 9000 certification.

## **SAMPLE DESCRIPTION AND DATA**

The study sample consists of all firms traded in the Athens Stock Exchange from 1992 to 2013. Data regarding the ISO 9000 certification were manually collected from various publicly available sources such as the websites of listed firms, the web sites of certification agencies, ISO 9000 certification announcements and information in printed media, direct contacts with the firms as well as from library archives for the older firms. Data for the financial performance measures were collected from the DataStream database.

After excluding firms not having available financial performance data as well as financial firms and firms with negative book value of equity (Fama and French, 1992), the sample size comprises 183 listed firms, 127 of which are ISO 9000 certified.

The certified firms of the sample are partitioned into two subgroups: the group of firms that are certified during the total sample years—*always*— and the group of firms that firstly initiate the ISO certification at a given point during the sample period – *starters*. The listed firms that have never acquired an ISO 9000 certification constitute the control group of non-certified firms. Based on the

above classification, the *always* group constitutes the 25,7% (47 firms), the *starters* group the 43,7% (80 firms) and the non-certified group the 30,6% (56 firms) of the sample.

Return on equity (ROE) and return on assets (ROA) are employed as measures of a firm's financial performance. Return on equity provides a measure of profitability attributable to shareholders and return on assets provides a measure of profitability related to the firm's total assets. ROE is calculated as net income in year *t* divided by common equity in year *t*-1 and ROA as operating income in year *t* divided by total assets in year *t*-1.

Control variables are included in the analysis in year *t*-1, in order to control for the effect of those variables on firm performance. The control variables used are: the size of the firm (SIZE) measured by the logarithm of total assets, the firm's debt financing measured by the total debt to common equity ratio (DEBT/EQUITY), the firm's growth opportunities i.e. the book to market ratio (BV/MV) and prior year's profitability (EPS) calculated as net income divided by the number of shares in year *t*-1. The descriptive statistics of all the variables included in the analysis are presented in Table 1.

Variables	Mean	Median	St Dev	Min	Max
ISO	0.593	1	0.491	0	1
ROE	0.054	0.042	0.192	-0.561	0.894
ROA	0.042	0.033	0.082	-0.181	0.350
SIZE	11.566	11.460	1.425	8.563	15.792
DEBT/EQUITY	0.886	0.599	1.058	0	6.475
BV/MV	1.400	0.883	1.559	0.055	9.447
EPS	0.179	0.093	0.484	-1.041	2.490
Notes. N=2.651 total firm year observations.					
Table 1. Descriptive Statistics					

## RESEARCH DESIGN

This section presents the methodology and models used. The study is based on unbalanced panel data. Firms are included in the sample from the year that enter the Athens Stock Exchange (ASE) and afterwards in the period from 1992 to 2013.

A difference-in-differences econometric approach is employed to examine financial performance differences between the ISO 9000 certified and non-certified firms. In doing so, treated and control firms are included in the same regression to estimate the effect of the ISO 9000 certification on firm performance. Year dummy variables and industry-specific fixed effects are included in all regressions to control for time effects and common shocks among industries.

To test the first hypothesis H1, stating that the listed ISO 9000 certified firms do not experience higher financial performance in comparison to the non-certified firms, the following regression equation (1) is estimated:

$$y_{it} = a_1 ISO\_ALL_{it} + a_k Controls_{it-1} + \sum_{t=1}^{20} \delta_t year_t + \zeta_i + e_{it} \quad (1)$$

where  $y_{it}$  is the financial performance measure of firm  $i$  in year  $t$  i.e. return on equity and (ROE) and return on assets (ROA). The dummy variable  $ISO\_ALL_{it}$  indicates the ISO 9000 certification for each certified group relative to the control group of non-certified firms. It takes the value of one for the firms of the *always* group, the value of zero for the non-certified firms and for the firms belonging to the *starters* group the value of one in the initial certification year and the subsequent years and zero in the years prior to the initial certification. The control variables ( $Controls_{it-1}$ ) include lag levels in year  $t-1$  of firm size (SIZE), total debt to common equity ratio (DEBT/EQUITY), book to market ratio (BV/MV) and earnings per share (EPS). The full set of year dummies is represented by the term  $\sum_{t=1}^{20} \delta_t year_t$  and  $\zeta_i$  denotes the industry-specific fixed effects.

To test the more specific hypothesis H1a, stating that the *always* do not experience higher financial performance in comparison to the non-certified firms, the following regression equation (2) is estimated:

$$y_{it} = \beta_1 ISO\_ALWAYS_{it} + \beta_k Controls_{it-1} + \sum_{t=1}^{20} \delta_t year_t + \zeta_i + e_{it} \quad (2)$$

where  $y_{it}$  is the financial performance measure of firm  $i$  in year  $t$  i.e. ROE; ROA. The dummy variable  $ISO\_ALWAYS_{it}$  takes the value of one for the *always* firms and the value of zero for the non-certified firms. The other variables are as explained in equation (1).

Furthermore, to test the more specific hypothesis H1b, stating that the *starters* do not experience higher financial performance in comparison to the non-certified firms, the following regression equation (3) is estimated:

$$y_{it} = \gamma_1 ISO\_STARTERS_{it} + \gamma_k Controls_{it-1} + \sum_{t=1}^{20} \delta_t year_t + \zeta_i + e_{it} \quad (3)$$

where  $y_{it}$  is the financial performance measure used of firm  $i$  in year  $t$ . The certification dummy  $ISO\_STARTERS_{it}$  takes the value of one in the year that each *starter* firm obtains its initial ISO certification and the years following the initial certification, and zero in the years prior to the initial certification year. Also it takes the value of zero for non-certified firms. The other variables are as explained in equation (1).

Coefficient  $\alpha_1$  of equation (1) captures any performance difference between the total certified firms and the control group of non-certified firms. Coefficients  $\beta_1$  and  $\gamma_1$  of equations (2) and (3) capture any performance differences between the *always* and *starters* groups when compared to the non-certified firms respectively.

Furthermore, to test hypothesis H2, stating that the *always* and *starters* are equally benefited from the ISO 9000 certification, the following regression equation (4) is estimated:

$$y_{it} = \varepsilon_1 ISO\_CERT_{it} + \varepsilon_2 ISO\_CERTxSTARTERS_{it} + \varepsilon_k Controls_{it-1} + \sum_{t=1}^{20} \delta_t year_t + \zeta_i + e_{it} \quad (4)$$

where  $y_{it}$  is the financial performance measure of firm  $i$  in year  $t$ . The dummy  $ISO\_CERT_{it}$  indicates the ISO 9000 certification for the *always* and *starters* groups. The variable  $ISO\_CERTxSTARTERS_{it}$  is an

interaction between the dummies  $ISO\_CERT_{it}$  and STARTERS. The STARTERS dummy takes the value of one for each *starter* firm and zero otherwise. The coefficient of interest is coefficient  $\varepsilon_2$  of the interaction term, which captures any performance differences between the two certified subgroups.

Panel A: All_CertifiedNever		
	ROE	ROA
ISO certification	0.0201*** (0.008)a (2.64)b	0.0132*** (0.000) (4.34)
R2	0.37	0.44
Panel B: AlwaysNever		
	ROE	ROA
ISO certification	0.0256** (0.024) (2.27)	0.0201*** (0.000) (4.58)
R2	0.38	0.45
Panel C: StartersNever		
	ROE	ROA
ISO certification	0.0252*** (0.004) (2.88)	0.0123*** (0.000) (3.61)
R2	0.36	0.44
Notes: a The first brackets contain t-statistics: *significant at 10%; **significant at 5%; ***significant at 1%. b The second brackets contain standard error. Year dummies, industry fixed effects and the control variables SIZE, DEBT/EQUITY, BV/MV and EPS are included in every regression.		
Table 2. Performance comparison across groups		

## EMPIRICAL RESULTS

### *Performance comparison across groups*

Panel A of Table 2 contains the estimates from the performance comparison between the full sample of ISO 9000 certified firms and the control group of non-certified firms. The results reveal a positive and statistically significant association between the ISO 9000 certification and firm's financial performance as measured by either the return on equity (ROE) or the return on assets (ROA). Panel B of Table 2 presents the estimates from the comparison of the *always* certified group of firms relative to the control group. The findings suggest a positive and statistically significant effect of the ISO 9000 certification on both ROE and ROA. Furthermore, Panel C of Table 2 contains the estimates from the *starters*

certified group when compared to the non-certified group. The evidence indicates the same positive and statistically significant association between the ISO 9000 certification and both return on equity and return on assets for the *starters*.

Overall, the above findings indicate that the ISO 9000 certified firms achieve higher financial performance in terms of return on equity and return on assets in comparison to the non-certified firms.

#### *Performance comparison within the certified subgroups*

Table 3 contains the estimates from the performance comparison between the two certified groups of the study (*always vs starters*). The findings suggest that the *starters* group is more benefited from the ISO 9000 certification than the *always* group in terms of return on equity (ROE). There is no difference in terms of ROA. Therefore, firms that initiate the ISO 9000 certification after entering the stock market (*starters*) exhibit better financial performance, in terms of ROE, in comparison to the *always* certified firms. The performance benefits deriving from the ISO 9000 certification have been realized earlier for the *always* firms whereas for the *starters* this takes place at later years.

	ROE	ROA
ISO certification	-0.0183 (0.109) <sup>a</sup> (-1.60) <sup>b</sup>	0.0103 (0.070) (1.81)
ISO certification x STARTERS	0.0183** (0.014) (2.47)	-0.0046 (0.169) (-1.37)
R2	0.42	0.47
Notes: a The first brackets contain t-statistics: *significant at 10%; **significant at 5%; ***significant at 1%. b The second brackets contain standard error. Year dummies, industry fixed effects and the control variables SIZE, DEBT/EQUITY, BV/MV and EPS are included in every regression.		
Table 3. Performance comparison within the certified subgroups - StartersAlways		

## CONCLUSION

This study examines the effect of the ISO 9000 certification on the financial performance of publicly traded firms by accessing financial performance differences between certified groups and a control group of non-certified firms using a difference-in-differences methodological approach. The ISO 9000 certification effect is further examined by accessing performance differences between the two certified groups. The findings of the study reveal a positive and statistically significant association between the Innovation, Entrepreneurship and Digital Ecosystems

ISO 9000 certification and firm's financial performance as measured by either the return on equity (ROE) or the return on assets (ROA). Furthermore, the findings indicate that the group of firms initiating the ISO 9000 certification after entering the stock market (*starters*) is more benefited from the certification, in terms of ROE, than the group of firms that are certified for all the years that are listed (*always*).

This study contributes to existing literature by distinguishing the certified firms of the sample according to the time period that they adopted the ISO 9000 certification into the *always* and *starters* groups. Additionally, the analysis is performed in an extended time period of 22 years. The data used in the study are compiled from financial reports rather than survey data. Differences in the empirical findings from previous evidence in the literature can be attributed to market characteristics, sample sizes and structures.

The policy implication of this study is that the acquisition of the ISO 9000 certification is beneficial to Greek listed certified firms as it creates better prospects for the firms that operate under a challenging economic environment.

## DISCUSSION

The aim of this study is to examine the effect of the ISO 9000 certification on the financial performance of all firms listed on the Athens Stock Exchange from 1992 to 2013. The analysis is conducted by categorizing the firms into groups based on whether they hold an ISO 9000 certification (certified firms) or not (non-certified control firms) and by further categorizing the firms within the certified group to those that *always* hold an ISO 9000 certification and to *ISO starters*.

The effect of the ISO 9000 certification on firm performance is estimated by comparing the financial performance of both certified groups to the financial performance of the control group of non-certified firms employing a difference-in-differences econometric approach. Prior literature is also extended by comparing the performance within the two certified subgroups of the study. To control for other financial characteristics that may or may not affect financial performance, the econometric models of the study are estimated by adding control variables (i.e. size effect, leverage and growth opportunities). By controlling for the effect of those variables the fit of the models is substantially improved (R-squared of the models are from 36% to 47%).

The findings suggest that the ISO 9000 certified firms exhibit significantly higher financial performance in comparison to the firms that have never obtained an ISO 9000 certification. The results presented in Table 2 suggest a positive and statistically significant association between ISO 9000 certification and both financial performance measures employed in the study i.e. return on equity

(ROE) and return on assets (ROA), for all the group comparisons of the certified firms relative to the control non-certified firms.

For the full sample, the total certified firms outperform the non-certified firms by 0.0201 in ROE (coefficient in second column of Table 2 Panel A) and 0.0132 in ROA (coefficient in third column of Table 2 Panel A). ROE and ROA are statistically significant at the 1% level of significance.

For the *always* firms, ROE is 0.0256 (coefficient in second column of Table 2 Panel B) and ROA is 0.0201 (coefficient in third column of Table 2 Panel B) higher for the certified firms relative to the non-certified firms. ROE is statistically significant at the 5% level of significance and ROA at the 1% level.

Also, for the *starters* when compared to the non-certified firms, ROE is 0.0252 (coefficient in second column of Table 2 Panel C) and ROA is 0.0123 (coefficient in third column of Table 2 Panel C) higher for the certified group. ROE and ROA are statistically significant at the 1% level of significance.

Furthermore, the evidence suggests that the certified firms belonging to the *starters* group are more benefited from the ISO 9000 certification in terms of ROE than the *always* firms. As presented in Table 3, the *starters* group exhibits 0.0183 higher ROE in comparison to the *always* group (coefficient of the interaction term in second column of Table 3). ROE is statistically significant at the 5% level of significance.

The findings of this study follow the stream of existing literature about the performance benefits gained due to the ISO 9000 certification (e.g. Starke et al. 2012; Terlaak and King 2006).

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## WHAT DRIVES PRICE DISPERSION IN EUROPEAN E-COMMERCE INDUSTRY?

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### ABSTRACT

This paper reports results of a study dedicated to measurement of price dispersion in European e-commerce industry. Using custom made web scraping tool we have collected pricing data of 182 branded products sold on-line across the EU, representing the most popular categories: clothing, consumer electronics, gaming and software and cosmetics. The novelty of our approach lies in targeting all major price comparisons sites in 26 EU member states, which enabled us to collect pricing signals from thousands of retail shops operating on-line. We find considerable dispersion of both pre and post-vat prices ranging from 20% to 40% depending on product category as measured with 10-90 interquartile range. Pattern of price dispersion is determined by the level of per capita income and capital costs.

Our results suggest that the observed dispersion of prices is driven by both cost differences and strategic price discrimination based on income heterogeneity. We argue that under the above circumstances policy interventions aiming to reduce fragmentation of Digital Single Market across national borders will decrease prices in high income countries and likely increase prices in low income countries introducing adverse welfare changes of a-priori unknown net effect.

**Keywords:** *price dispersion, price discrimination, e-commerce, web-scraping, price comparison service.*

### INTRODUCTION

Single market theory assumes the far-reaching integration among the countries. European Union (EU) is the only economic union whose objective is completing the single market. Among many legal initiatives the great part of them is focused on the price differences. If markets are integrated, there should be no significant difference in prices according to standard theories such as the Law of One Price. However, this is not what is observed in the EU. According to the Eurostat (2016), between 2004 and 2008 prices converged in the EU28, but afterwards this process stopped or even reversed. On the other hand, in the EU15 the level of price dispersion is fairly stable. European Commission (EC) undertakes many legal initiatives to reduce price dispersion, even though there is still lack of understanding of all factors behind it. Our papers aims to shed more light on this phenomenon. Our study offers value added in two respects. First, we use a novel approach – the web-scraped price data

from the price comparison services. Web-scraping is an innovative technique used to analyze the price dynamics e.g. by Cavallo (2015). It offers a possibility to collect tons of individual price signals from virtually all shops selling particular item in each country. This allows us to measure the price dispersion in EU in a robust way. According to our assessment, it reaches on average 29,8% for the whole sample. This figure varies substantially depending on product category. Second, we study the pattern of the observed price dispersion and show that it depends among other factors on per capita income.

We analyze three broad groups of factors which influence the magnitude of the price dispersion: (i) supply side factors; (ii) demand side factors and (iii) institutional factors. Wrong targeting of the policy intervention can result in the adverse effects on the economy. For example, if price dispersion is a result of a strategic price discrimination on producer and/or distributor level, then any policy intervention reducing trade barriers would essentially bring adverse distributional effects on customer and producer welfare in the particular member states. As economic literature suggests, a-priori there is no conviction that the net effect is guaranteed to be positive (Malueg et al., 1994). Therefore, understanding sources of the price dispersion is crucial. We find that at least some part of the observed price dispersion is induced by the strategic price discrimination between different country markets within the EU.

Our paper is organized as follows: section 2 provides literature review, section 3 describes data collection technique and summarizes the data, section 4 sheds light on the price dispersion pattern, while section 5 summarizes and concludes.

## LITERATURE REVIEW

Economic integration should lead to the convergence of economies in the long run. Neoclassical models, like the Solow growth model, or the Heckscher-Ohlin trade model show that economic integration of factors would eventually result in the convergence of income (Kim, 1998). Our era of globalisation provides many opportunities to test this conclusion. Kim (1998) shows that US regional convergence in the second half of the 20th century was driven by the greater mobility of factor endowments, which led to the convergence of capital-labour ratios, hence to the convergence of wages and per capita income. There are numerous empirical analyses in the context of European integration. Among others, Barry (2003) analyses the convergence of EU cohesion countries (Ireland, Greece, Spain and Portugal) to the rest of the EU, Massmann et al. (2003) examine the convergence of business-cycles of EU15 countries, while Halmai et al. (2010) present the convergence of the New Member States to the EU15. On general, the empirical works confirm the convergence of the EU member states (income, interest rates) to each other.

An important aspect of economic convergence is the decrease of price dispersion (the difference between prices for identical products). If markets are integrated, there should be no significant difference in prices according to standard theories such as the Law of One Price. However, this is not what consumers and economists observe in the EU. According to the Eurostat (2016), prices converged between 2004 and 2008 in the EU28, however, this process stopped ever since and even reversed, with increasing price dispersion. In the EU15, the level of price dispersion is fairly stable.

Online shopping is becoming an important channel of purchases besides the traditional offline retail. According to Eurostat data, the share of e-commerce in total turnover (without the financial sector) has already reached 15% in EU15, and in countries like Great Britain comprises more than 20%. The European Commission, aware of the fundamental meaning of digital economy, made the completion of the Digital Single Market (DSM) one of its priorities. The aim of the DSM is to ensure the cross-border access of online activities under conditions of fair competition in the entire EU (EC, 2015). A potential impact of the stronger integration of digital markets between EU member states is the decrease in the price dispersion across countries in online prices.

E-commerce is also becoming a major source of data on prices. This potential of online trade is harnessed by the Billion Price Project at MIT, which provides macroeconomic research using data collected from the Internet (scraped data). From this branch of research, Cavallo (2015) shows that prices collected from the Internet can be used to analyze inflation and changes in the real economy. Furthermore, scraped data has many advantages over traditional sources of micro-price data (no delays, free from common measurement errors).

The observed cross-country differences in prices may be caused by international price discrimination of the producers (differences in mark-ups) or by differences in costs (Verboven, 1996). Mark-ups may be influenced by differences in consumer income and taste, while costs by transportation, service wages etc. Additionally, structural causes, like market structure or differences in taxes (VAT) may cause prices to differ (Internal Market Directorate General, 2002).

Price dispersion has been widely analyzed in the car market, due to the huge price differences between EU15 countries. Verboven (1996) shows that international price discrimination, measured by cross-country differences in relative wholesale mark-ups, is among the drivers of price-differences. Interestingly, car producers seem to charge a higher mark-up for their domestic market, than at the foreign markets. An analysis of price convergence in the car market is also provided by Goldberg et. al (2005), who find evidence on convergence to the Law of One Price between 1970-2000.

Alessandria et al. (2007) show that income per capita explains half of the aggregate price dispersion across countries. Using a wide sample of US export data, the authors suggest that mark-ups account for 40% of this relationship and that costumers in low income countries are more price sensitive. Crucini et

al. (2013) analyze the determinants of price dispersion using a panel of retail prices from 79 countries in the period 1990-2005. The authors find that service-sector wage differences almost entirely explain price dispersion at the PPP level. When analyzing price dispersion at the level of individual goods and services, wage differences explain around one third of dispersion, with an equal impact of trade related costs. However, the authors are aware of the fact that the prices of tradable goods are affected by non-tradable elements, therefore it is difficult to distinguish between costs and mark-ups. Simonovska (2015) is tackling this issue analyzing the relationship between the price of online tradable goods and per capita income. The author is using a dataset of prices on apparel products produced by a Spanish manufacturer, which are sold in 29 various countries (23 EU member states). The examined products are only available online, furthermore they are manufactured and shipped from a single place, therefore destination-specific non-tradable price contributions (such as wages) can be suppressed. The author finds that per-capita income differences account for one third, while shipping costs explain up to a third of cross-country differences in prices. More specifically, doubling the per capita income of the buyer's country leads to an 18% rise in the price level of apparel and footwear. Additionally, the author finds that Eurozone membership decreases price dispersion relative to Spain.

The literature has been divided in the evaluation of the impact of the euro on price dispersion. Allington et al. (2004) finds that price convergence accelerated due to the euro, while others, including Parsley and Wei (2008) or Fischer (2012) did not find such causal effect. Ogrokhina (2015) examines the impact of the common market and the EMU on price convergence and finds that while the Single European Act decreased price differences in the examined 120 traded goods by 5%, the single currency increased by 2%. However, the euro had different impact considering product categories- price convergence had been observed for cars, while divergence for food and tobacco.

To sum up, the literature suggests that price differences are indeed influenced by both mark-ups and costs. International price discrimination can be classified as third degree price discrimination, in which the seller discriminates (charges different prices for a unit of the same product) among different groups of consumers based on observable heterogeneities (for example, the geographical location of the consumer or income). Theoretical literature shows that third degree price discrimination might increase or decrease overall social welfare compared to uniform pricing. For the analysis of monopoly market, see Armstrong (2008), Cowan (2008), Aguirre et al. (2010), Galera et. al (2014), while for duopoly markets refer to Corts (1998), Stole (2003) and Adachi et al. (2011). Malueg et al. (1994) shows the necessary conditions for price discrimination to increase the welfare of an economic union, which refer to the convexity of respective demand functions and the overall size of weak and strong markets. Therefore, we cannot state that price discrimination is necessarily harming consumers. The fact that producers segment the internal market and charge different prices in the member states does not have a

clear impact on the overall welfare of the EU. Moreover, theoretical analysis shows that welfare effects of reducing price discrimination will have opposite signs in case of low and high priced markets, hence even if the net effect would be positive for the EU, some compensation mechanism should be in place.

## SCOPE OF PRICE DISPERSION

### *Web-scraping technique and advantages and disadvantages of Scrapped-data*

Cavallo (2015) introduces Scraped Data as a new source of micro-price information to measure price stickiness. It is only one of the examples of usage of the web-scraping techniques, which are getting attention as the new approach to analyze behavior of prices. Lunnemann and Wintz (2011), Gorodnichenko and Talavera (2014), and Gorodnichenko, Sheremirov, and Talavera (2014) find that online prices tend to be more flexible and have smaller price changes than offline prices. However current research was mainly focused on the price dynamics and their patterns. However, to the authors' best knowledge, there is still a gap in the empirical literature using the web-scraping and investigating the price dispersion between countries. To fill this gap we investigated the price differences in online retail in European Union.

There are a few advantages of using on-line rather than off-line prices. Firstly, collecting data remotely is much cheaper option than the survey based methods, especially in case of cross-country setting. Secondly, it is possible to include large number of retailers. This huge advantage is important, as the result won't be affected by the price strategies of the particular company or retail chain. However, in case of increasing the number of retailers, it would be necessary to design the web-scraping tool for every retailer separately, if they are using different web-page designs. To address this issue we run our web-scraping tool on the data provided by the price comparisons services<sup>1</sup>. It allows us to limit significantly web-scraping tool complexity significantly with keeping the diversity of on-line retailers. Thirdly, we are able to collect many observation for one product, which should improve the quality of price information in our database. It is connected with one disadvantage – as the automated tool is collecting all information provided by the price comparison service, we observe “heterogeneity” bias<sup>2</sup> extending tails of price distribution. To address this we use medians of the prices for every country-product level in our analysis.

Our approach is similar to one presented in Cavallo (2015). As we are not intend to analyze the dynamic of prices we are collecting our data in one point of time. Precisely our procedure works in

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<sup>1</sup> The list of the price comparisons services is available upon request.

<sup>2</sup> As “heterogeneity” bias we refer to the situation when the price comparison service asked about the price of the particular product provides us with price information of the most similar products in case of not having proper data. Even though we use restrictive cleaning techniques to fully address this concern we use the medians of the prices in further analysis.

three steps. Firstly, we collect information about most popular products searched in price comparisons services and we choose only those, which have the most “unified” names across countries (i.e. the name of the product is the same in at least 9 countries). Secondly, we design dedicated tool to visit price comparison service webpages and to collect information about the product, price and price information provider (i.e. online shop which is included in the price comparison service database). Our program is designed to read the webpage code, recognized proper tags defined separately for every price information provider<sup>1</sup> and store the data. Finally, we run our program in two different modes – using its own IP or using the external server placed in particular country. The last step is designed to ensure that we are getting the same price information as the local consumer on particular market.

#### *Data set and results*

We collect the data about five of the most popular categories in on-line retail, in particular: fashion (clothing and footwear), cosmetics and healthcare (cosmetics and perfumes), computer games and software, electronics and computer hardware, and household appliances. The full list of products contains 657 different product names divided into categories, which results in 143,490 observations. The full split of the sample by products and by observations is presented in Table 1.

To ensure that, as we mentioned above, we are collecting valid price information, we apply few rigorous filters on our data, e.g. every word from the product name (further called “product query”) is included in the description of our price record. Those procedures limit the number of products to 382 and the number of observations to 32,116. Finally we keep only the products, which are recorded in at least 9 countries in our sample. The final impact on the number of products after each step and in every category is presented in details in Table 1. As it can be seen the cleaning procedure impacted the data significantly - finally we keep only around 19.1% of final sample. In case of working with scrapped data we face a trade-off between the number of data providers (price comparison services, online retailers’ webpages) and code complexity. In particular if we want to extend the number of the data providers we need to define proper tag structure of every new one. Using the price comparison services data we can address this problem, however we need to pay more attention to its quality.

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<sup>1</sup> For more details about markup languages and their tag structure please see Coombs et al. (1987)

Category	# of products		
	scrapped	after cleaning	in final sample
Fashion	362	154	33
Cosmetics&Healthcare	87	33	24
Households Appliances	58	56	35
Electronics and Computer Hardware	84	75	43
Computer Games and Software	66	64	47
Total	657	382	182

Category	# of observations		
	scrapped	after cleaning	in final sample
Fashion	58 410	7 713	4 272
Cosmetics&Healthcare	25 472	5 419	4 736
Households Appliances	11 643	3 955	3 181
Electronics and Computer Hardware	23 697	7 503	6 666
Computer Games and Software	24 268	7 526	6 547
Total	143 490	32 116	25 402

Table 1. *The number of products and observations in each product category*

Even though at the beginning of data collecting we were trying to ensure that the data are equally distributed between countries after all cleaning procedures we observe that for some of them total number of observations remains low. Total number of products and observations for each country is presented in Table 2. It has to be noted that only for two countries the numbers remains low (Belgium and Portugal), while for others we get satisfying sample size.

Country	# of products	# of observations	Country	# of products	# of observations
Austria	143	1 183	Italy	131	910
Belgium	16	37	Latvia	115	2 447
Bulgaria	101	678	Lithuania	92	494
Croatia	91	340	Netherlands	39	380
Czech Republic	144	2 427	Poland	137	1 805
Denmark	127	844	Portugal	36	158
Estonia	58	763	Romania	141	1 152
Finland	73	346	Slovakia	152	1 963
France	92	766	Slovenia	91	469
Germany	70	989	Spain	72	386
Greece	130	1 359	Sweden	144	2 177
Hungary	149	1 482	United Kingdom	131	1 342
Ireland	76	505	Average	102,0	1 016,1

Table 2. *The number of products and observations for EU countries*

We observe significant price dispersion in European Union. We calculate average price dispersion in three steps. Firstly, as mentioned before, we calculate the median price on country-product level (for every product and for every country separately). It cleans our data from outliers and “heterogeneity” bias issue. Secondly, we compute the mean of the median prices for every product. It gives us the



average price of the product in European Union. Finally, we calculate the difference between median price and the product average price and scale it by the product average price. The results are presented in first column of Table 3. The absolute price deviation in EU on average is (+/-) 11.2%. In similar way we calculate different dispersion statistics, every time starting from median price on country-product level as proxy of the price in respective country for particular product. Price dispersion in the whole product sample, measured by interquartile range of median (post-tax) relative price distribution, amounts to 16% for 75-25 percentile interval. While this is rather conservative measure, the figure almost doubles (30%) for 90-10 percentile range. Analyzing the variation of the price differences we see that both approaches – one based on quantiles and one based on the moments, show us that the possibilities for price arbitrage exist. In most extreme situations they can reach even more than 160 EUR as in case Laptops and PCs category or more than 87 EUR for software, measured by quantile price dispersion (the difference between 90% quantile and 10% quantile).

Category	Subcategory	Average absolute price dispersion	Average # of observation per product	Quantile coefficient of dispersion (0.9-0.1)	Quantile price dispersion (0.9-0.1) [EUR]	Quantile coefficient of dispersion (0.75-0.25)	Quantile price dispersion (0.75-0.25) [EUR]	Coefficient of variation (mean)	Coefficient of variation (median)
Fashion	Clothing	13,9%	9,91	39,3%	27,65	18,3%	12,03	0,35	0,34
Fashion	Footwear	12,3%	12,36	31,1%	27,91	18,0%	16,08	0,25	0,26
Fashion	Accessories	9,9%	7,92	26,4%	21,16	12,1%	10,52	0,54	0,49
Cosmetics&Healthcare	Cosmetics	12,9%	12,72	36,2%	11,93	19,4%	4,28	1,16	1,53
Cosmetics&Healthcare	Perfumes	12,5%	12,53	35,3%	22,91	20,5%	13,2	0,38	0,39
Households Appliances	House	9,6%	6,65	20,9%	12,05	8,7%	5,04	0,35	0,34
Households Appliances	House (>100EUR)	10,4%	7,02	21,1%	58,85	11,3%	30,42	0,78	1,31
Households Appliances	Kitchen	11,4%	7,06	35,5%	64,32	18,4%	35,05	0,78	0,91
Households Appliances	Beauty	13,1%	5,51	31,8%	17,24	17,8%	10,1	0,51	0,5
Electronics and Computer Hardware	Accessories	10,7%	10,05	31,6%	14,98	19,5%	9,78	0,51	0,5
Electronics and Computer Hardware	Laptops and PCs	11,4%	8,67	28,8%	162,74	16,3%	94,61	0,55	0,84
Electronics and Computer Hardware	Monitors	7,8%	9,18	20,6%	39,54	11,5%	19,81	0,95	1,46
Electronics and Computer Hardware	Tablets and E-readers	9,6%	7,36	24,1%	73,57	14,0%	43,34	0,55	0,59
Electronics and Computer Hardware	Consoles	9,6%	10,09	24,0%	67,89	11,7%	32,18	0,4	0,4
Computer Games and Software	Software	11,7%	9,11	32,4%	87,89	18,6%	55,35	0,7	0,81
Computer Games and Software	PC games	12,3%	7,46	35,5%	13,29	21,4%	8,09	0,39	0,36
Computer Games and Software	Console games	10,7%	7,44	31,7%	14,74	18,2%	8,5	0,26	0,25
Total		11,2%	8,93	29,8%		16,2%		0,55	0,66
Table 3. <i>The price dispersion in European E-commerce industry</i>									

As results presented above show significant price dispersion in on-line retail, we confront our data with Eurostat price levels data (precisely we use `prc_ppp_ind` variable from Eurostat database for year 2014). We expect the significant difference between our and Eurostat levels due to the differences in the products included in the sample (see Figure 1). However, in terms of magnitude, we see that the range of scale dispersion is similar in both datasets. This shows that the analyzed phenomenon is not exclusive for on-line retail.

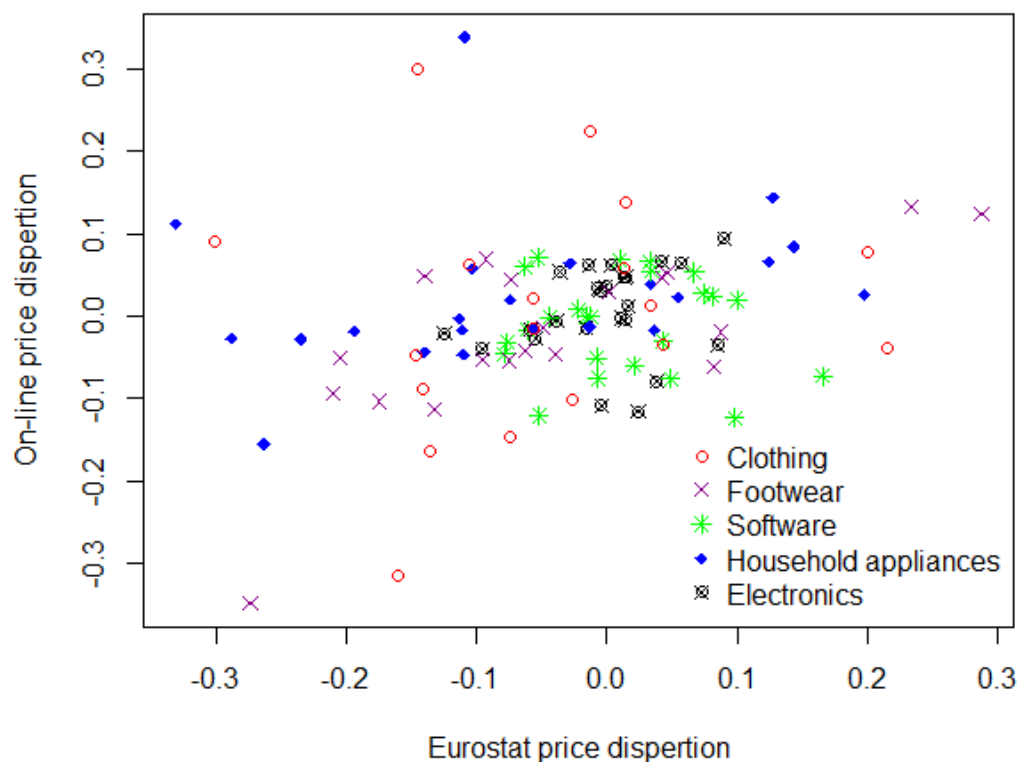


Figure 1. *Price dispersion in European E-commerce industry compared with Eurostat data.*

Our data confirms significant price dispersion in European e-commerce industry. Dispersion of prices was previously confirmed in economic literature as is shown in section 2. Also Eurostat provides comprehensive data confirming the phenomenon. As we can argue that in case of the off-line transaction making the cross-border transactions is connected with high transaction costs, for on-line retail they are mostly limited. Therefore, to answer the question about the main factors behind price dispersion, usage of the on-line price data seems to be more appropriate.

## PRICE DISPERSION PATTERN

Economic literature discussed in section two suggests at least three broad groups of factors which influence the magnitude of price dispersion: (i) supply side factors like the cost of manufacturing, sales and distribution of goods; (ii) demand side factors such preferences and more importantly purchasing power of consumers and (iii) institutional factors such as differences in the level of competition in the market or taxation. It should be noted that although in most instances items are produced in developing countries, and imported to the EU, factor prices in particular member states will still affect economic conditions of pursuing activity of on-line shops as sale, distribution and marketing generate bulk of costs which are born domestically. Moreover there is large scope of differences among EU member states with respect to contractual law regarding for example seller liability or scope of consumer protection which will be most likely reflected in prices.

In this section we verify to what extent supply and demand side factors influence systematically on-line price dispersion among EU states. We start this analysis by looking at various factor prices available in the Eurostat, such as unit labor cost, unit cost of energy and fuels or capital costs. We expect that this supply side variables could affect prices in an obvious way. On top of it two demand side variables are considered: annual net salary in the private service sector and GDP *per capita*. We also include standard VAT rates which generally apply to the product categories which we analyze.<sup>1</sup>

The scale of differences in all these variables among the Member States of the European Union is given in Table 4.

Variable	average	median	min	max	standard deviation
Unit cost of labour [EUR/h]	18.96	15.60	3.80	40.30	11.87
Average annual net salary [EUR/full time]	13455	11960	2668	28583	7973
Electric energy price [EUR/kwh]	0.18	0.17	0.09	0.30	0.06
Euro95 petrol price [EUR/litre]	1.31	1.34	1.10	1.57	0.14
Diesel fuel price [EUR/litre]	1.24	1.23	1.05	1.54	0.11
Cost of capital – interest rate [%] (a)	1.80	1.26	0.31	7.81	1.57
Standard VAT rate [%] (b)	21.61	21.00	17.00	27.00	2.35

Table 4. *Descriptive statistics of price dispersion determinants in the EU countries.*

Source: Eurostat, average annual data (2014) except for (a) ECB (status as at 31/10/2015), (b) DG TAXUD (status as at 1/09/2015).

At present in the EU we can still observe considerable differentiation with regards to the factors presented in Table x1. To assess in statistically meaningful way which of those factors have the

<sup>1</sup> Although VAT rules are not harmonized across the EU, reduced rates apply usually to books and baby clothing and equipment – all of which have not been considered in our study.

strongest influence on dispersion of on-line prices in the EU countries, we have conducted linear regression analysis. As a dependent variable we took relative price deviation, which is closely related to interquartile price dispersion but takes both negative and positive values around the average from median prices calculated for the countries where a given product was supplied. More specifically we have estimated the following model:

$$PD_{i,j} = f(SS_{i,j}, DS_{i,j}, IE_{i,j}, PC_k)$$

Where  $PD_{i,j}$  is percent deviation of median price of product  $i$  in country  $j$  from the average of median prices for all countries where the product was offered on-line.  $SS$  and  $SD$  are vectors of supply and demand side factors,  $IE$  are institutional environment variables and  $PC$  are product subcategories. Detailed list of variables is provided in Table 5 below.

Name of variable in the model	Variable description
PD: [percent_deviation]	Percentage deviation of the median of product prices in a given country from the average of medians for all countries based on the web scraping study of results from price comparison websites
DS.: [GDP_pc]	Real GDP per capita in EUR thousands, at the end of 2014.
DS: [net_earnings]	Average annual net salary in 2014
IE: [NMS]	Variable indicating a new member state of the European Union
SS: [pop_density]	Population density – proxy for transportation costs
IE: [vat_stdrate]	Current level of standard VAT rate
SS: [ele_cost]	Unit cost of electric energy, average annual value in 2014.
SS: [E95_price]	Euro95 petrol price, average annual value in 2014.
SS: [diesel_price]	Diesel oil price, average annual value in 2014.
SS: [unit_lab_cost]	Unit cost of labour, average annual value in 2014.
SS: [interest_rate]	Current interest rate on 10-year Treasury bonds in the secondary market–capital price index
PC: [Games for PC], [Games for consoles], [Consoles], [Cosmetics], [Laptops and computers], [Small household appliances for the home < EUR 100], [Small household appliances for the home > EUR 100], [Small household appliances for the kitchen], [Monitors], [Footwear], [Perfumes], [Software], [Tablets and e-book readers], [Clothing], [Body care appliances] – Binary variables for subcategories of products.	

Table 5. *List of variables used in regression analysis.*

Prior to estimation we inspected collinearity of independent variables. Based on variance inflation factor test we had to eliminate from the model, net earnings and unit labor cost due to high collinearity with GDP *per capita*. For the same reason a dummy variable NMS denoting new member states had to be ruled out from analysis. As a consequence we could not further treat *per capita* income as a purely demand side factor, but can still expect that the sign of coefficient for this variable will be positive. Final model has been estimated with the OLS regression and passes bunch of standard diagnostic tests.<sup>1</sup> Coefficients of the final model are presented in Table 6.

<sup>1</sup> Error terms are distributed iid normal. Model has no omitted variables.

MODEL	Parameter	Std. Error	t value	Pr(> t )
(Intercept)	-0.1258	0.0493	-2.55	0.0108
vat_std_rate	0.0005	0.0014	0.33	0.7433
ele_cost	-0.1300	0.0897	-1.45	0.1474
E95_price	0.0577	0.0405	1.42	0.1546
diesel_price	-0.0165	0.0422	-0.39	0.6956
GDP_pc	0.0022	0.0004	5.95	0.0000
interest_rate	0.0042	0.0022	1.89	0.0592
Computer accessories	-0.0004	0.0160	-0.02	0.9824
PC games	0.0190	0.0158	1.20	0.2292
Console games	0.0287	0.0138	2.08	0.0372
Consoles	0.0248	0.0163	1.53	0.1272
Cosmetics	-0.0202	0.0178	-1.13	0.2575
Laptops and computers	0.0067	0.0207	0.32	0.7457
Small household appliances for the home < EUR 100	-0.0524	0.0268	-1.96	0.0502
Small household appliances for the home > EUR 100	0.0326	0.0186	1.75	0.0801
Small household appliances for the kitchen	0.0133	0.0175	0.76	0.4481
Monitors	0.0196	0.0169	1.16	0.2451
Footwear	0.0148	0.0156	0.95	0.3429
Perfumes	0.0301	0.0151	2.00	0.0457
Software	0.0073	0.0179	0.41	0.6817
Tablets and e-book readers	0.0222	0.0181	1.23	0.2189
Clothing	0.0101	0.0220	0.46	0.6453
Body care appliances	0.0102	0.0159	0.64	0.5214
Residual standard error: 0.136 on 2526 degrees of freedom				
Multiple R-squared: 0.05411, Adjusted R-squared: 0.04587				
F-statistic: 6.568 on 22 and 2526 DF, p-value: < 2.2e-16				

Table 6. Results of linear regression for the 'percent\_deviation' variable

Regression results shed light into the pattern of observed price dispersion among the EU countries. Its magnitude is conditional first of all on two factors: cost of capital ('interest\_rate' variable) and the level of GDP *per capita* ('GDP\_pc' variable). Estimations of parameters for both variables follow the expected

direction: along with the increase in cost of capital in a given country by 1 percentage point, the deviation of median price from the average level for EU rises by 0.4 percentage point for the whole product sample. In turn, increase in GDP *per capita* by EUR thousand is connected with increase in deviation of the price in the given country from the median of prices in the EU by 0.22 percentage point. The influence of the GDP variable can be illustrated on the example of Poland and United Kingdom, whose GDP levels are, respectively, EUR 11 thousand and 41 thousand. Based on the model results, prices in Poland will be, due to the differences in income, on average 6.6 percentage point lower than in the United Kingdom. The model also shows systematic differences in the magnitude of price deviation between few product categories. For example, the positive coefficient for 'Perfumes' variable means that, other things being equal, prices of perfume products deviate by 3 percentage points more from the average level than all other products in the sample.

Interesting observations can be drawn from the results showing which variables proved to be statistically insignificant. First and foremost, these are the VAT rate and fuel and energy costs. VAT rates are established by individual countries in accordance to the needs and objectives of their fiscal policy and not the level of income. As for electricity costs, they are often larger in less developed countries due to greater share of fossil fuels in their energy mixes and also less efficient production capacities. Besides share of fuel and energy in sales and distribution costs remains relatively low.

## SUMMARY AND CONCLUSIONS

This paper provides a new way of collecting price data and applies it to measure price dispersion across the EU for a broad variety of homogeneous commodities. We have obtained a unique snapshot picture of price dispersion based on data from price comparison sites using web-scraping technique. The main advantage of this approach is that it offers a possibility to collect tons of individual price signals from virtually all shops selling particular item in each country. This great benefit comes at a relatively small effort of scraping reasonably small number of web sites that integrate information. We have also analyzed the pattern of observed price dispersion with selected economic characteristics of member states to gain better insights into factors which determine on-line prices. Our study brings two main results.

First, price dispersion in the whole product sample, measured by interquartile range of median (post-tax) relative price distribution, amounts to 16% for 75-25 percentile interval. While this is rather conservative measure, the figure almost doubles (30%) for 90-10 percentile range. We note that both figures show average price dispersion for the whole product sample. The sample itself is composed of large variety of branded items representing all main product categories. We believe that this large heterogeneity adds to the robustness of our results. The magnitudes of price dispersion differ quite a lot

between product categories and subcategories, ranging from roughly 20% for electrical household appliances to 40% for clothing.

Secondly, price levels grow with GDP *per capita* and costs of capital. According to results of regression analysis an increase in real GDP *per capita* by one thousand EUR increases deviation of median price by 0.22 percentage point relative to the average level for the EU. In turn, an increase of interest rate of treasury bonds by 1 percentage point increases price by 0.44 percentage point. We note that the observed link between *per capita* income and price dispersion might be consistently explained with at least two through mechanisms. The first is classical third degree price discrimination based on differences in demand elasticity induced by income levels. The second is supply side mechanism related to labor costs. Unfortunately, lacking data on quantities, we could not isolate both effects.<sup>1</sup> Nevertheless we argue that it is reasonable to assume that both mechanisms are likely in force. Consequently at least part of observed price dispersion is induced by strategic price discrimination between country markets within the EU. This has important bearing for new policy interventions aiming to reduce price dispersion in the Digital Single Market.

While price dispersion between EU countries is unavoidable because of objective differences in taxes, wages and capital costs, as well as lack of harmonization of contract laws, the main policy question remains whether its scope is not too large and how can be effectively reduced? Some policy interventions are now being debated within the EC in response to public consultations on geographically based-restrictions initiated in September 2015. The Commission wants to address geo-blocking and other discriminations based on place of residency or nationality with a new regulation. The new regulation will reinforce equal treatment of cross-border consumers with so called 'shop like a local' principle - and perhaps will go even further and impose an obligation to serve customers across the EU giving the trader the right to charge extra delivery costs. What would be the effects of such regulation?

Lowering barriers for cross border trade will lower high costs of arbitrage for consumers and as a result ability to exercise price discrimination by distributors on the European level. It is however unlikely that equal treatment principle would have any effect on non-strategic component of price dispersion, because on-line retailers act in competitive environments and hence all existing differences in operational costs between countries will be passed on retail prices. On the other hand the situation of large distributors and producers is very different. Considerable income differences affect price elasticity and encourage distributors to price discriminate between national markets. On the EU level strategic price discrimination leads to greater rent extraction from customers. Hence the effects of new

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<sup>1</sup> Lacking sales data makes it impossible to account for market competition which is also an important determinant for price dispersion. There is some evidence that market power of merchants from off-line channel is often transmitted to e-commerce.



regulation will crucially depend on whether it can limit the room for uncompetitive practices of large distributors and producers such as vertical trade restraints so that consumers can actually buy cross border. Besides competition law enforcement major change in arbitrage costs could happen if the delivery prices were lower, however EC does not plan to undertake any action in this respect.

EC interventions to lowering barriers for cross-border trade such as reducing geo-blocking restrictions or liberalizing parcel delivery market would most likely decrease price dispersion due to reduction of incentives for strategic price discrimination on the wholesale level. This would eventually decrease prices in high income countries bringing positive welfare effects for customers. On the other hand prices in lower income countries are expected to increase, because in this way traders can reduce potential benefits from arbitrage to customers. Hence welfare effect for customers from lower income countries will most likely be negative. Producers' surpluses are expected to change in the opposite directions.

The major conclusion from this discussion is that if price dispersion is a result of strategic price discrimination on producer and/or distributor level, then any policy intervention reducing trade barriers, would essentially bring adverse distributional effects on customer and producer welfare in particular member states. As economic literature suggests, a-priori there is no conviction that the net effect is guaranteed to be positive (Malueg et al., 1994). Therefore we argue that any policy interventions targeting price dispersion in the Digital Single Market in an administrative manner should be carried out very carefully.

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# BUNDLING OR UNBUNDLING? ANALYSIS OF PROFIT GAINS FROM BUNDLING

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## Abstract

Bundling literature has mainly focused on profit dominance in a weak sense. However, this classical perspective has little practical applicability, as it does not tell under which conditions mixed bundling can be expected to outperform the two remaining sales formats strictly and by how much. Therefore, in this paper, we shift to a different perspective and look at the magnitude of profit gains from mixed bundling in a particular, albeit tractable demand setting. We propose a single parameter joint density function of reservation prices for two goods which has two convenient properties: (i) marginal distributions are uniform yielding linear market demands for both component products and (ii) correlation coefficient between reservation prices has a closed-form. Our analysis of bundling gains is carried out for the whole possible range of marginal costs and degree of correlation of valuations of bundle components. Our results in principle show that bundling is rarely better enough. It can generate over 10% profit gains only for specific combinations of low marginal cost and sufficient negative correlation of valuations. In this way, our results conform with practical observations that bundling is applicable mainly to low marginal costs industries like information goods or ICT services.

**Keywords:** *correlated reservation prices, mixed bundling, pure bundling, uniform marginal distribution*

## 1. INTRODUCTION

The question about conditions for optimality of bundling is a long studied issue in pricing literature. The problem has been posted since the seminal works of Stigler (1963) and Adams and Yellen (1976) and still has not received a definite answer. In their famous study, Adams and Yellen have shown on discrete examples that monopolist will earn extra profit from bundling, compared to independent sales of products, if a distribution of reservation prices for the package has reduced variance compared to valuations of each component. Their more general conclusion was that

profitability of bundling depends crucially on the level of costs and distribution of consumers in reservation price space.<sup>1</sup>

Since then continuous attempts have been made to derive conditions under which bundling generates more profit for possibly the least restrictive assumptions about consumer demand space and costs. Venkatesh and Mahajan (2009) provide an excellent overview of those efforts undertaken throughout more than three decades. They conclude that although mixed bundling is expected to outperform weakly pure components, the conditions for strict profit dominance are unknown except for several particular cases.

Existing research identified at least several demand and supply side elements which determine the profitability of bundling, such as (non) additivity and correlation in reservation prices and (non) additivity of unit costs. Schmalensee (1984) argues that pure bundling works through reduced heterogeneity in reservation prices across consumers, thus facilitating the capture of greater part of consumer surplus. On the other hand, mixed bundling is essentially a price discriminating tool and might yield an even higher profit if marginal production costs are substantial.<sup>2</sup> The idea of reduced heterogeneity of reservation prices for a bundle is linked to the issue of negative correlation of component reservation prices. McAfee et al. (1989) establish general sufficient condition for mixed bundling to dominate separate sales for any atomless joint distribution of reservation prices and show that it also holds for independently distributed reservation prices. Their condition partially corresponds to but does not imply, a negative correlation property of reservation prices. More recently, Chen and Riordan (2013) utilized copula approach to restate sufficient and necessary conditions of McAfee et al. (1989) for bundles of a size larger than two. Their conditions use broader concepts of negative dependence or tail dependence which are properties of copula functions (Nelsen, 1999). However, bundling can be profitable also when reservation prices for two products are positively correlated, at least for specific distributions of individual demands such as bivariate normal (Schmalensee, 1984).

All these studies have adopted local analysis approach, looking at the improvement of profits when shifting to mixed bundling, from introducing package price with infinitesimal small discount. Our study takes a different approach. We focus on by how much (mixed) bundling outperforms unbundling. It requires switching from local improvement analysis towards searching for global optima. Despite its obvious practical relevance, the problem of (global) profit gains magnitude has not

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<sup>1</sup> Under pure bundling, monopolist sells only the package, while with mixed bundling customers may choose to buy either a package (for the price that is different from the sum of single-good prices) or any of the component goods separately.

<sup>2</sup> Mixed bundling enables monopolist to sell a bundle to a large mass of customers with at least moderate valuations for both goods and at the same time capture higher mark-up from consumers, who are mainly interested in one of the goods.

received much attention in literature so far. Some existing studies conducted global optima analysis for specified stylizations of components reservation prices and dependency pattern, sometimes with the supportive use of simulation techniques.<sup>1</sup> Eckalbar (2010) explores optimality of bundling under a uniform distribution of reservation prices and gives analytical mixed and pure bundling solutions, but only for the three special cases: independence and perfect positive or negative correlation.<sup>2</sup> He also reflects on the profit gains issue and claims that mixed bundling offers up to 10% larger profits than separate sales while the gains from pure bundling do not exceed 8.8% - both results holding only for independence case and zero marginal costs. Despite this result, hardly anything can be found about how the magnitude of profit gains from bundling is affected by costs and correlation of valuations.

This paper aims to shed some light on this issue. To progress with analysis of profit gains, we introduce a new bivariate distribution of reservation prices which possesses advantages of both previously indicated. On one hand it has analytically tractable demand and profit functions for pure bundling and pure components strategies and on the other hand, it allows to capture underlying correlation with a single parameter.

Our contribution to existing research is twofold. First, we propose joint density function of reservation prices for two goods  $f^a$ , with a single parameter controlling for the shape of demand space. We show that this joint distribution has two convenient properties for the analysis of bundling problem: (i) marginal distributions derived from  $f^a$  are always uniform in the whole parameter space and (ii) correlation coefficient between marginal distributions is a closed-form function of distribution's parameter and can take any value in the whole range  $[-1, +1]$ . Under our formulation of reservation price space, we can analytically model pure bundling problem for any degree of correlation. Although closed-form solutions for mixed bundling do exist in proposed setting, our treatment of mixed bundling relies on simulations, as this case has too many subcases that need to be considered analytically. Second, for the introduced joint density function we analyze optimality and profit gains from shifting to monopoly pure and mixed bundling strategies for a full range of correlation and marginal costs. Our results are valid for the specific type of distribution we have adopted, but nevertheless, they support an astonishing conclusion that while bundling is never worse than unbundling, it is rarely better enough for practical implementation. This finding holds even for high negative correlation between reservation prices, pointing to the critical role of costs in bundling

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<sup>1</sup> For continuous case, the most frequently used families of distributions are uniform and normal. Gaussian demand is analytically intractable, but on the other hand, bivariate normal distribution captures underlying correlation through a single parameter.

<sup>2</sup> Uniform distribution yields linear demand curve which is convenient for analytical profit maximization, especially for pure components strategy. So far there have been no attempts to analytically model partial correlation between uniformly distributed valuations, perhaps in consent with a view expressed by Venkatesh and Mahajan (2009, p.236): *"This form is analytically quite tractable, can capture complementarity and substitutability, but is not convenient for modeling correlation (except perfect positive/negative correlation)"*.

analysis. We assess bundling gains with arbitrary assumption that 10% markup over operating surplus from pure components is sufficient to cover implementation costs.<sup>1</sup> The fact that mixed bundling rarely exceeds this rather modest threshold is the most astonishing finding from our study.

The paper is organized as follows. In section 2 we describe the general structure of bundling problem and set out our analytical framework. More specifically we introduce bivariate density function with 'belt-shaped' domain to describe reservation price space and derive a formula for correlation of reservation prices. In section 3 we provide solutions to bundling problem within our framework and determine profit gains from pure and mixed bundling for different degrees of correlation and marginal costs. The last section provides summary and conclusions.

## 2. MODEL OF COMMODITY BUNDLING

The focus of this section is on a mathematical model of commodity bundling. Let  $\mathbb{R}$  denote the ordinary real line  $(-\infty, \infty)$ ,  $\mathbb{R}^2$  denote the real plane  $\mathbb{R} \times \mathbb{R}$ , and  $\overline{\mathbb{R}}$  denote the extended real line  $[-\infty, \infty]$ ,  $\overline{\mathbb{R}}^2$  denote the extended real plane  $\overline{\mathbb{R}} \times \overline{\mathbb{R}}$ . We also let  $Domf$  and  $Ranf$  denote the domain and the range of the  $f$  function. There are two goods in our model. We will use the capital letters  $\mathbb{X}$  and  $\mathbb{Y}$  to represent these goods and lowercase letters  $x, y$  to represent their reservation prices. Valuations of  $\mathbb{X}$  and  $\mathbb{Y}$  goods by consumers will be represented in our model by joint bivariate reservation price density function.

### Definition 1

The bivariate reservation price density function for goods  $\mathbb{X}$  and  $\mathbb{Y}$  is a real function  $f$  with the following properties:

1.  $Domf = [0, \bar{x}] \times [0, \bar{y}] \subset \overline{\mathbb{R}}^2$  is the Cartesian product of two closed intervals, where  $\bar{x} \in \overline{\mathbb{R}}$ ,  $\bar{y} \in \overline{\mathbb{R}}$  and  $\bar{x} \geq \bar{y} > 0$ ,
2.  $Ranf \subset \mathbb{R}$  and  $f(x, y) \geq 0$  for all  $(x, y)$  in  $[0, \bar{x}] \times [0, \bar{y}]$ ,
3.  $\iint_{[0, \bar{x}] \times [0, \bar{y}]} f(x, y) dy dx = 1$ .

Note that for all  $x_1, x_2 \in [0, \bar{x}]$ ,  $x_1 \leq x_2$  and for all  $y_1, y_2 \in [0, \bar{y}]$ ,  $y_1 \leq y_2$  in  $Domf$

$$0 \leq \int_{x_1}^{x_2} dx \int_{y_1}^{y_2} f(x, y) dy \leq 1$$

is the fraction of a population of consumers with the reservation prices for good  $\mathbb{X}$  and  $\mathbb{Y}$  falling within rectangle  $[x_1, x_2] \times [y_1, y_2]$

### Definition 2

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<sup>1</sup> In reality, there are always some additional fixed and variable implementation costs, which are usually ignored in bundling models as a consequence of simplifying assumptions about additivity of constant marginal costs.

The univariate reservation price density function for good  $\mathbb{X}$  is a real function  $f_x$  with the following properties:

1.  $Dom f_x = [0, \bar{x}] \subset \mathbb{R}$  is the closed interval in  $\mathbb{R}$ ,
2.  $Ran f_x \subset \mathbb{R}$  and  $f_x(x) \geq 0$  for all  $x$  in  $[0, \bar{x}]$ ,
3.  $\int_0^{\bar{x}} f_x(x) dx = 1$ .

Note that

$$f_x(x) = \int_0^{\bar{y}} f(x, y) dy$$

and for all  $x_1, x_2 \in [0, \bar{x}]$ ,  $x_1 \leq x_2$ , in  $Dom f_x$

$$0 \leq \int_{x_1}^{x_2} f_x(x) dx \leq 1$$

is the fraction of a population of consumers with the reservation prices of good  $\mathbb{X}$  falling within interval  $[x_1, x_2]$ .

The following properties hold:  $f_y(y) = \int_0^{\bar{x}} f(x, y) dx$ ,  $Dom f_y = [0, \bar{y}] \subset \mathbb{R}$  and for every interval  $[y_1, y_2]$ , where  $y_1, y_2 \in [0, \bar{y}]$ ,  $y_1 \leq y_2$ , in  $Dom f_y$   $0 \leq \int_{y_1}^{y_2} f_y(y) dy \leq 1$ .

Univariate reservation price density function for good  $\mathbb{Y}$  is defined analogously. Following the framework of Adams and Yellen (1976) monopolist can choose between three following strategies:

1. Sell goods  $\mathbb{X}$  and  $\mathbb{Y}$  separately - **pure component** strategy (PC).
2. Offer goods  $\mathbb{X}$  and  $\mathbb{Y}$  for sale only in packages - **pure bundling** strategy (PB).
3. Combine PC and PB strategies by offering goods  $\mathbb{X}$  and  $\mathbb{Y}$  not only separately but also in a package. This is **mixed bundling** strategy (MB).

#### **pure components strategy**

A consumer with single demand will purchase a unit at price  $p$  if his reservation price of this good (weakly) exceeds this price. Therefore, the market demand for any good at price  $p$  is a fraction of consumers with the reservation prices greater than or equal to  $p$ . Hence, we can define the demand function of good  $\mathbb{X}$  for PC strategy as follows:

#### **Definition 3**

The demand function for good  $\mathbb{X}$  under pure components strategy is a real function  $d_x^{PC}$  with domain  $[0, \bar{x}]$  given by:

$$d_x^{PC}(p) = 1 - \int_0^p f_x(x) dx = \int_p^{\bar{x}} f_x(x) dx$$

Demand function for good  $\mathbb{Y}$  is defined analogously.

### pure bundling strategy

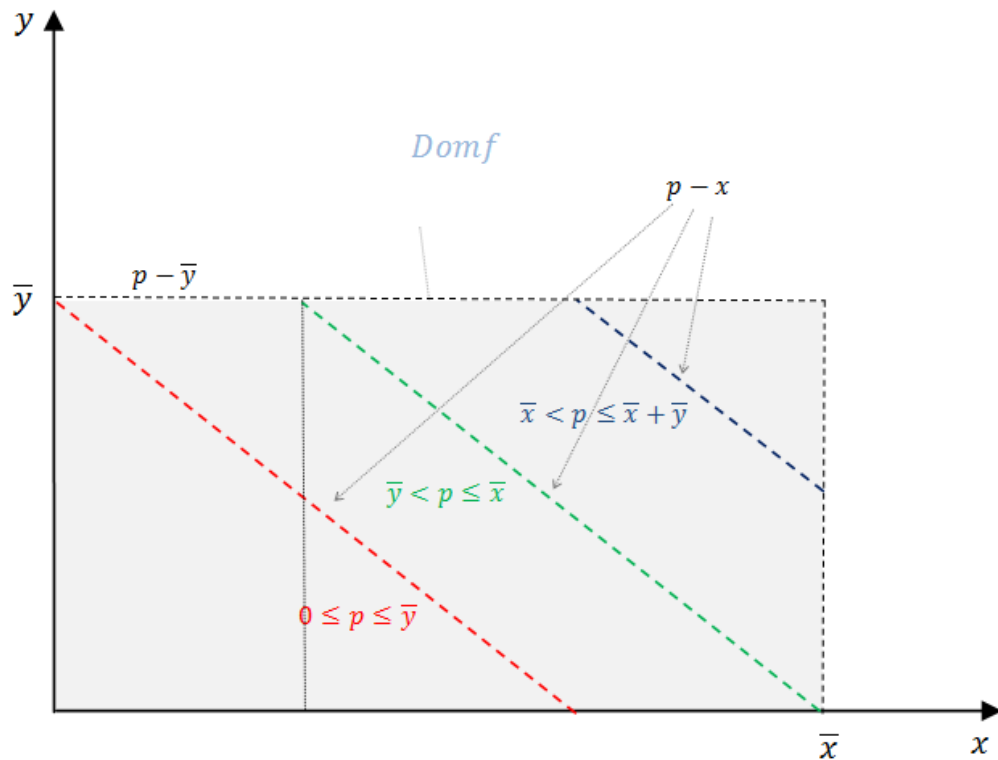
When a package consisting of the  $\mathbb{X}$  and  $\mathbb{Y}$  goods is offered at price  $p$ , a consumer will make a purchase if and only if the sum of his or her reservation prices for these goods will be greater than or equal to  $p$ . This additivity property is assumed in most studies and adopt it as well. Consumer space under pure bundling strategy is graphed in Figure 1. We need to define demand function for the bundle for three different intervals of a price  $p$ :  $[0, \bar{y}]$ ,  $(\bar{y}, \bar{x}]$ ,  $(\bar{x}, \bar{x} + \bar{y}]$ .

#### Definition 4

The demand function of the bundle the  $\mathbb{X}$  and  $\mathbb{Y}$  goods under pure bundling strategy is a real function  $d_b^{PB}$  with domain  $[0, \bar{x} + \bar{y}]$  given by:

$$d_b^{PB}(p) = \begin{cases} 1 - \int_0^p dx \int_0^{p-x} f(x, y) dy, & 0 \leq p \leq \bar{y} \\ 1 - \int_0^{p-\bar{y}} dx \int_0^{\bar{y}} f(x, y) dy - \int_{p-\bar{y}}^p dx \int_0^{p-x} f(x, y) dy, & \text{where } \bar{y} < p \leq \bar{x} \\ 1 - \int_0^{p-\bar{y}} dx \int_0^{\bar{y}} f(x, y) dy - \int_{p-\bar{y}}^{\bar{x}} dx \int_0^{p-x} f(x, y) dy, & \bar{x} < p \leq \bar{x} + \bar{y} \end{cases}$$

Figure 1. Pure bundling strategy.





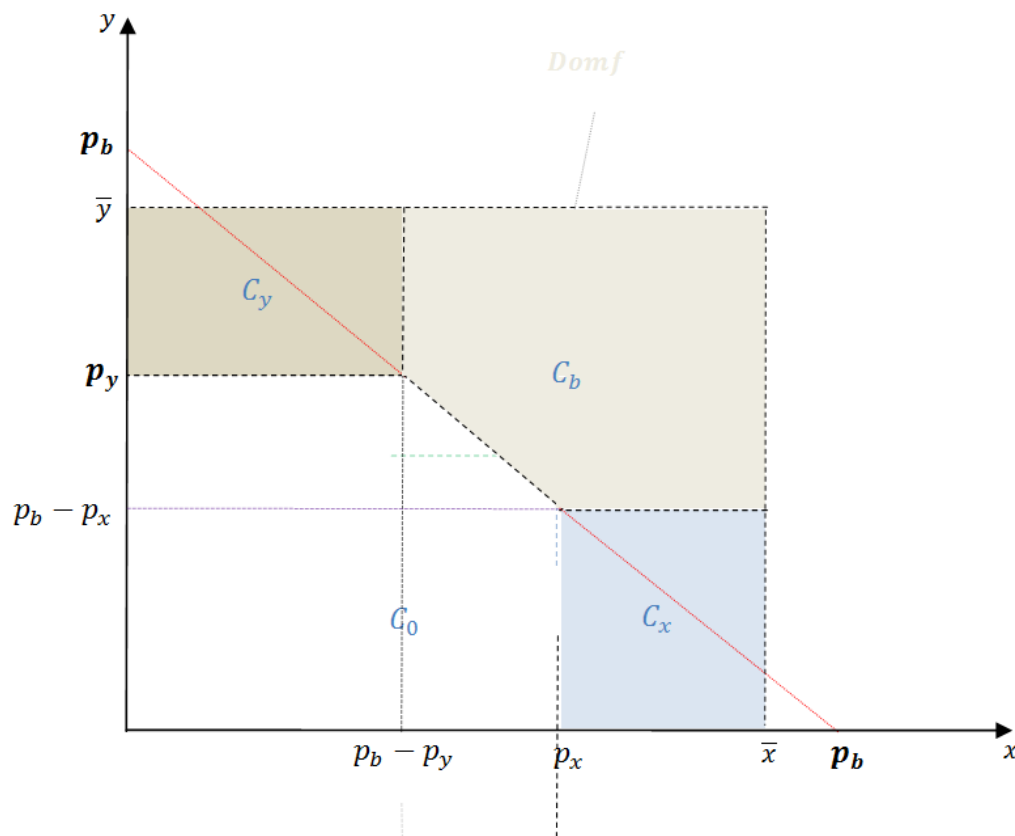
Note that for symmetric case:  $\bar{x} = \bar{y} < +\infty$  demand for a bundle simplifies to:

$$d_b^{PB}(p) = \begin{cases} 1 - \int_0^p dx \int_0^{p-x} f(x, y) dy, & 0 \leq p \leq \bar{x} \\ 1 - \int_0^{p-\bar{x}} dx \int_0^{\bar{x}} f(x, y) dy - \int_{p-\bar{x}}^{\bar{x}} dx \int_0^{p-x} f(x, y) dy, & \bar{x} < p \leq 2\bar{x} \end{cases}$$

### mixed bundling strategy

This is most interesting but also the most analytically demanding strategy, because a consumer can buy not only a package consisting of goods  $X$  and  $Y$  but also each good separately. Essentially mixed bundling strategy introduces discrimination between consumers who now have four options to choose from: buying only good  $X$ , buying only good  $Y$ , buying a package of both and at the end buying nothing. Consumer space under MB strategy is presented in Figure 2.

**Figure 2. Mixed bundling strategy.**



Under pure bundling monopolist needs to establish three different prices:

- $p_x$  - a price for good  $X$ ;
- $p_y$  - a price for good  $Y$ ;
- $p_b$  - a price for the bundle consisting of  $X$  and  $Y$ .

Note that if monopolist offers goods  $\mathbb{X}$  and  $\mathbb{Y}$  separately at prices  $p_x$  and  $p_y$  then it makes sense to offer a bundle provided that its price includes a discount:

$$p_b < p_x + p_y.$$

Based on this inequality, we get two conditions for implicit prices for  $\mathbb{X}$  and  $\mathbb{Y}$  which must hold if monopolist wants to implement mixed bundling strategy effectively:

$$p_b - p_x < p_y \text{ and } p_b - p_y < p_x.$$

The interpretation of those conditions is simple:  $p_b - p_x > 0$  is the implicit price of good  $\mathbb{Y}$  for a consumer who would buy only good  $\mathbb{X}$  at a price  $p_x$  and  $p_b - p_y > 0$  is the implicit price of good  $\mathbb{X}$  for the consumer who would buy only good  $\mathbb{Y}$  at a price  $p_y$ . Implicit prices for  $\mathbb{X}$  and  $\mathbb{Y}$  are also bounded from the above by the price of a bundle or the maximal reservation price in the population - whichever is smaller. Thus for every  $p_x$  in  $[0, \bar{x}]$ ,  $p_y$  in  $[0, \bar{y}]$ ,  $p_b$  in  $[0, \bar{x} + \bar{y}]$  we have the following restrictions on  $(p_y, p_x, p_b)$ :

$$0 < p_b - p_x < p_y < \min(p_b, \bar{y}),$$

and

$$0 < p_b - p_y < p_x < \min(p_b, \bar{x}).$$

In Figure 2, we can see the following four demand segments:

$$C_0 = \{(x, y) \in \text{Dom}f \mid x < p_x \text{ and } y < p_y \text{ and } x + y < p_b\}$$

is the area with consumers who buy nothing;

$$C_x = \{(x, y) \in \text{Dom}f \mid x \geq p_x \text{ and } y < p_b - p_x\}$$

is the area with consumers who buy only good  $\mathbb{X}$ ;

$$C_y = \{(x, y) \in \text{Dom}f \mid y \geq p_y \text{ and } x < p_b - p_y\}$$

is the area with consumers who buy only good  $\mathbb{Y}$ ;

$$C_b = \{(x, y) \in \text{Dom}f \mid x \geq p_b - p_y \text{ and } y \geq p_b - p_x \text{ and } x + y \geq p_b\}$$

is the area with consumers who buy only the bundle. Based on the above, for mixed bundling strategy we need to define:

- demand for good  $\mathbb{X}$ ,
- demand for good  $\mathbb{Y}$ ,
- demand for the bundle consisting of both goods.

### Definition 5

The demand function for good  $\mathbb{X}$  under mixed bundling strategy is a real function  $d_x^{MB}$  with domain  $(p_b - p_y, \min(p_b, \bar{x})) \times [0, \bar{x} + \bar{y}]$  given by

$$d_x^{MB}(p_x, p_b) = \int_0^{p_b - p_x} dy \int_{p_x}^{\bar{x}} f(x, y) dx.$$

**Definition 6**

The demand function for good  $Y$  under mixed bundling strategy is a real function  $d_y^{MB}$  with domain  $(p_b - p_x, \min(p_b, \bar{y})) \times [0, \bar{x} + \bar{y}]$  given by

$$d_y^{MB}(p_y, p_b) = \int_0^{p_b - p_y} dx \int_{p_y}^{\bar{y}} f(x, y) dy.$$

**Definition 7**

The demand function for the bundle under mixed bundling strategy is a real function  $d_b^{MB}$  with domain  $(p_b - p_y, \min(p_b, \bar{x})) \times (p_b - p_x, \min(p_b, \bar{y})) \times [0, \bar{x} + \bar{y}]$  given by

$d_b^{MB}(p_x, p_y, p_b) = \int_{p_b - p_y}^{p_x} dx \int_{p_b - x}^{\bar{y}} f(x, y) dy + \int_{p_b - p_x}^{\bar{y}} dy \int_{p_x}^{\bar{x}} f(x, y) dy$ . independent uniform marginal densities

Now we apply the general structure of bundling problem to the case when reservation prices for both goods are independent and uniformly distributed. Under these assumptions bivariate joint reservation price distribution takes the form  $f(x, y) = \frac{1}{\bar{x}\bar{y}}$  with  $Domf = [0, \bar{x}] \times [0, \bar{y}] \subset \mathbb{R}^2$ , where  $\bar{x} \in \mathbb{R}$ ,  $\bar{y} \in \mathbb{R}$  and  $\bar{x} \geq \bar{y} > 0$ , the demand functions evaluate to:

1. For PC strategy (Definition 3)

$$d_x^{PC}(p) = 1 - \frac{1}{\bar{x}}p, \quad d_y^{PC}(p) = 1 - \frac{1}{\bar{y}}p,$$

2. For PB strategy (Definition 4)

$$d_b^{PB}(p) = \begin{cases} 1 - \frac{1}{2\bar{x}\bar{y}}p^2, & 0 \leq p \leq \bar{y} \\ 1 - \frac{1}{2\bar{x}\bar{y}}(p^2 - (p - \bar{y})^2), & \text{for } \bar{y} < p \leq \bar{x} \\ 1 - \frac{1}{2\bar{x}\bar{y}}(p^2 - (p - \bar{x})^2 - (p - \bar{y})^2), & \bar{x} < p \leq \bar{x} + \bar{y} \end{cases}$$

3. For MB strategy (Definitions 5, 6 and 7)

$$d_x^{MB}(p_x, p_b) = \frac{1}{\bar{x}\bar{y}}(\bar{x} - p_x)(p_b - p_x), \quad d_y^{MB}(p_y, p_b) = \frac{1}{\bar{x}\bar{y}}(\bar{y} - p_y)(p_b - p_y),$$

$$d_b^{MB}(p_x, p_y, p_b) = 1 - \frac{1}{\bar{x}\bar{y}}(\bar{x}(p_b - p_x) + \bar{y}(p_b - p_y)) - \frac{1}{2\bar{x}\bar{y}}((p_x^2 + p_y^2) - p_b^2).$$

Eckalbar (2010) has analyzed bundling problem under the above assumptions. He shows that for all relevant values of marginal cost mixed bundling strategy generates the highest profits but reduces consumer surplus compared to separate sales of both goods. His second conclusion states that pure bundling will be inferior to pure components if marginal costs exceed a certain level. Our analysis extends Eckalbar's results beyond independence case.

**Profit optimization**

We can now formulate monopoly profit optimization. With the three strategies at hand, generic profit formula for monopolist is given by:

$$\Pi_{max} = \max_{(p_x^{PC}, p_y^{PC}, p_b^{PB}, p_x^{MB}, p_y^{MB}, p_b^{MB})} \{ \Pi^{PC}(p_x^{PC}, p_y^{PC}), \Pi^{PB}(p_b^{PB}), \Pi^{MB}(p_x^{MB}, p_y^{MB}, p_b^{MB}) \} \quad (1)$$

where:

- $\Pi^{PC}(p_x^{PC}, p_y^{PC})$  is profit from PC strategy,
- $\Pi^{PB}(p_b^{PB})$  is profit from PB strategy,
- $\Pi^{MB}(p_x^{MB}, p_y^{MB}, p_b^{MB})$  is profit from MB strategy,
- $p_x^{PC}, p_y^{PC}$  are prices of the  $\mathbb{X}$  and  $\mathbb{Y}$  goods respectively for PC strategy,
- $p_b^{PB}$  is price of the bundle for PB strategy,
- $p_x^{MB}, p_y^{MB}, p_b^{MB}$  are prices of the  $\mathbb{X}$ ,  $\mathbb{Y}$  and the bundle both goods respectively for MB strategy.

To evaluate the expression (1) we need to specify the cost structure. We will follow the mainstream approach adopted in bundling literature and assume additive cost function with constant marginal costs and no fixed costs. It should be noted that this assumption rather disfavors bundling as it rules out economies of scale and scope which likely increase gains from selling a product in packages. Profit functions are now given by:

1. For PC strategy

$$\Pi^{PC}(p_x^{PC}, p_y^{PC}) = \Pi_x^{PC}(p_x^{PC}) + \Pi_y^{PC}(p_y^{PC}) \quad (3)$$

where:

- $\Pi_x^{PC}(p_x^{PC}) = d_x^{PC}(p_x^{PC})(p_x^{PC} - c_x)$  is profit from selling good  $\mathbb{X}$  under PC,
- $d_x^{PC}$  is demand function for good  $\mathbb{X}$  under PC (Definition 3),
- $c_x$  is marginal costs of good  $\mathbb{X}$ .

Profit formula for good  $\mathbb{Y}$  is analogous.

2. For PB strategy

$$\Pi^{PB}(p_b^{PB}) = d_b^{PB}(p_b^{PB})(p_b^{PB} - c_b) \quad (4)$$

where:

- $d_b^{PB}$  is demand function of the bundle of  $\mathbb{X}$  and  $\mathbb{Y}$  goods under PB (definition 4)
- $c_b = c_x + c_y$  is the marginal cost of the bundle.

3. For MB strategy

$$\Pi^{MB}(p_x^{MB}, p_y^{MB}, p_b^{MB}) = \Pi_x^{MB}(p_x^{MB}, p_b^{MB}) + \Pi_y^{MB}(p_y^{MB}, p_b^{MB}) + \Pi_b^{MB}(p_x^{MB}, p_y^{MB}, p_b^{MB}) \quad (5)$$

where:

- $\Pi_x^{MB}(p_x^{MB}, p_b^{MB}) = d_x^{MB}(p_x^{MB}, p_b^{MB})(p_x^{MB} - c_x)$  is profit from selling  $\mathbb{X}$  under MB,
- $\Pi_y^{MB}(p_y^{MB}, p_b^{MB}) = d_y^{MB}(p_y^{MB}, p_b^{MB})(p_y^{MB} - c_y)$  is profit from selling  $\mathbb{Y}$  under MB,

- $\Pi_b^{MB}(p_x^{MB}, p_y^{MB}, p_b^{MB}) = d_b^{MB}(p_x^{MB}, p_y^{MB}, p_b^{MB})(p_b^{MB} - c_b)$  is profit from selling the bundle under MB,
- $d_x^{MB}, d_y^{MB}, d_b^{MB}$  are demand functions for goods  $\mathbb{X}$ ,  $\mathbb{Y}$  and the bundle respectively, under MB (see, Definitions 5, 6, 7).

### Setting the framework: joint density $f^a$

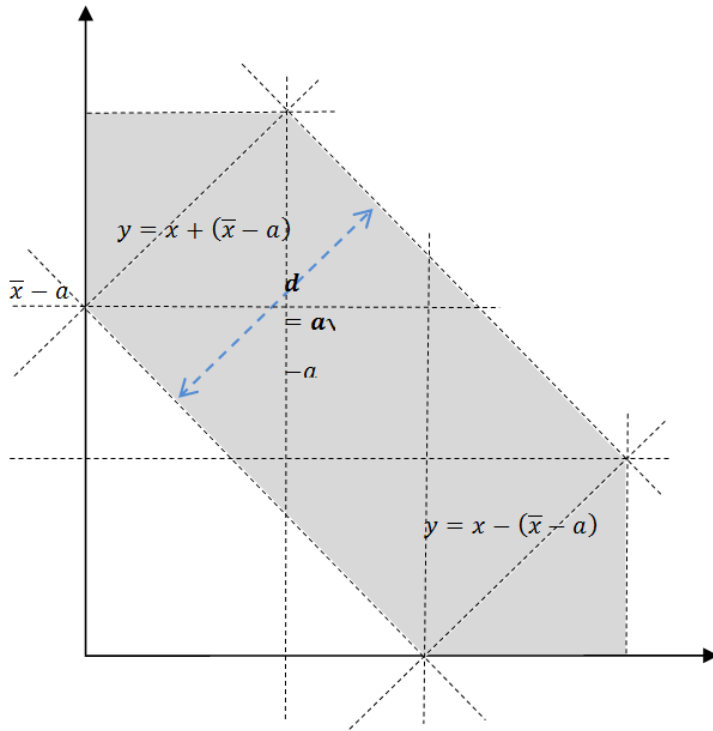
With a basic model at hand, we can introduce reservation price space which has desirable properties for analysis of bundling problem, namely uniform marginal densities and a closed-form formula for the correlation coefficient. Let  $f^a$  denote a joint bivariate density function of reservation prices for two goods, with a single shape parameter  $a$ . The domain of  $f^a$  where density is positive forms a ‘belt’, which is symmetric around the diagonal of square  $[0, \bar{x}] \times [0, \bar{x}]$  as illustrated in Figure 3. Parameter  $a$  measures width of the ‘belt’, which in this case equals  $d = a\sqrt{2}$ . Depending on the value of  $a$  the ‘belt’ shrinks towards a diagonal line or expands to the whole square. The key feature of  $f^a$  is that density in both triangular areas is twice larger than in rectangular area Cooke (2009).<sup>1</sup> In what follows we show that  $f^a$  : (i) is indeed a proper density function; (ii) always has uniform margins and (iii) has a closed form expression for correlation coefficient which covers a full range of values in  $[-1, +1]$ .

We introduce two variants of  $f^a$  density. By  $f^{a-}$  we denote a function with belt-shaped domain directed towards top-left corner of  $[0, \bar{x}] \times [0, \bar{x}]$  square and by  $f^{a+}$  a function with belt-shaped domain directed towards the top-right corner.<sup>2</sup> Both variants cover respectively positive and negative correlation of reservation prices for goods  $\mathbb{X}$  and  $\mathbb{Y}$ . In Figure 3, we show a negative belt:  $Dom f^{a-}$  for  $a \in (0, \frac{\bar{x}}{2}]$  and in Figure 4 for  $a \in (\frac{\bar{x}}{2}, \bar{x}]$ . We distinguish both subranges for parameter  $a$  because the definition of  $f^{a-}$  slightly differs in each case, as is shown in Propositions 1a and 1b.

<sup>1</sup> Andrew Cooke proposed this density in a short technical note outside bundling context. We credit him here.

<sup>2</sup> Throughout the text we use the following naming convention: we refer to the domain of  $f^{a-}$  as a negative belt and  $f^{a+}$  as a positive belt.

Figure 3. Negative belt:  $\text{Dom} f^{a-}$  for  $a \in (0, \frac{\bar{x}}{2}]$ .



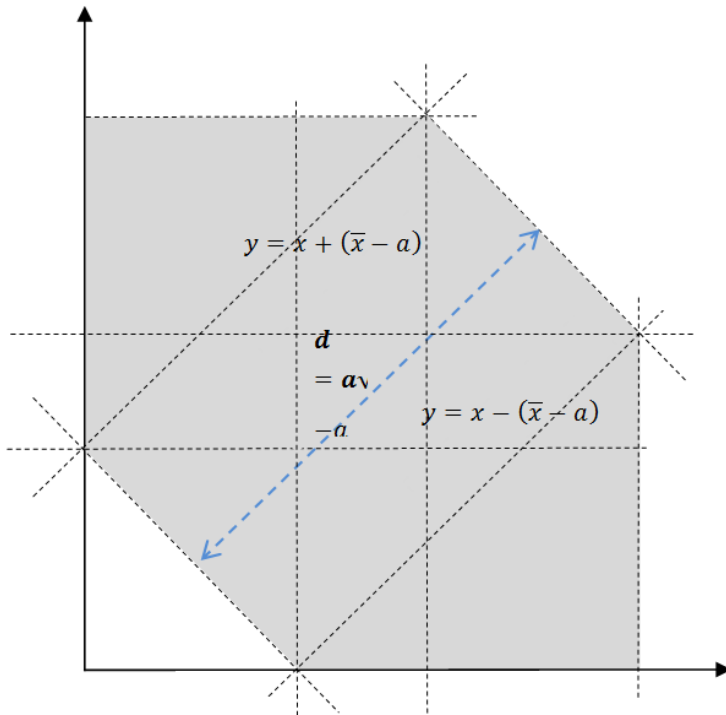
In the following two propositions, we formally define  $f^{a-}$  and prove uniformity of its margins.

**Proposition 1a.** Function  $f^{a-}$  for  $a \in (0, \frac{\bar{x}}{2}]$  given by:

$$\begin{aligned} \bigwedge_{0 \leq x \leq a} f^{a-}(x, y) &= \begin{cases} \frac{1}{a\bar{x}} & x + (\bar{x} - a) \leq y \leq \bar{x} \\ \frac{1}{2a\bar{x}} & -x + (\bar{x} + a) \leq y < x + (\bar{x} - a) \\ 0 & \text{otherwise} \end{cases} \\ \bigwedge_{a < x \leq \bar{x} - a} f^{a-}(x, y) &= \begin{cases} \frac{1}{2a\bar{x}} & -x + (\bar{x} - a) \leq y \leq -x + (\bar{x} + a) \\ 0 & \text{otherwise} \end{cases} \\ \bigwedge_{\bar{x} - a < x \leq \bar{x}} f^{a-}(x, y) &= \begin{cases} \frac{1}{2a\bar{x}} & x - (\bar{x} - a) < y \leq -x + (\bar{x} + a) \\ \frac{1}{a\bar{x}} & 0 \leq y \leq x - (\bar{x} - a) \\ 0 & \text{otherwise} \end{cases} \end{aligned} \quad (6)$$

is a reservation price joint density function for goods  $\mathbb{X}$  and  $\mathbb{Y}$  with uniform marginal densities.

For proof, see Appendix. Next proposition defines  $f^{a-}$  in a range  $a \in (\frac{\bar{x}}{2}, \bar{x}]$ .

**Figure 4.** Negative belt:  $Dom f^{a-}$  for  $a \in (\frac{\bar{x}}{2}, \bar{x}]$ .

**Proposition 1b.** Function  $f^{a-}$  for  $a \in (\frac{\bar{x}}{2}, \bar{x}]$  given by:

$$\begin{aligned}
 \bigwedge_{0 \leq x \leq \bar{x}-a} f^{a-}(x, y) &= \begin{cases} \frac{1}{a\bar{x}} & x + (\bar{x} - a) \leq y \leq \bar{x} \\ \frac{1}{2a\bar{x}} & -x + (\bar{x} + a) \leq y < x + (\bar{x} - a) \\ 0 & \text{otherwise} \end{cases} \\
 \bigwedge_{\bar{x}-a < x \leq a} f^{a-}(x, y) &= \begin{cases} \frac{1}{a\bar{x}} & 0 \leq y \leq x - (\bar{x} - a) \\ \frac{1}{2a\bar{x}} & x - (\bar{x} - a) \leq y \leq x + (\bar{x} - a) \\ \frac{1}{a\bar{x}} & x + (\bar{x} - a) \leq y \leq \bar{x} \end{cases} \quad (7) \\
 \bigwedge_{a < x \leq \bar{x}} f^{a-}(x, y) &= \begin{cases} \frac{1}{2a\bar{x}} & x - (\bar{x} - a) < y \leq -x + (\bar{x} + a) \\ \frac{1}{a\bar{x}} & 0 \leq y \leq x - (\bar{x} - a) \\ 0 & \text{otherwise} \end{cases}
 \end{aligned}$$

is a reservation price joint density function for goods  $\mathbb{X}$  and  $\mathbb{Y}$  with uniform marginal densities.

Proof of Proposition 1b is analogous to Proposition 1a and is therefore omitted. Having established negative belt density function for the whole range of parameter  $a$ , in Propositions 2a and 2b we introduce its positive belt variant.

**Proposition 2a.** Function  $f^{a+}$  for  $a \in (0, \frac{\bar{x}}{2}]$  given by:

$$\bigwedge_{0 \leq x \leq a} f^{a+}(x, y) = \begin{cases} \frac{1}{a\bar{x}} & 0 \leq y < -x + a \\ \frac{1}{2a\bar{x}} & -x + a \leq y \leq x + a \\ 0 & \text{otherwise} \end{cases}$$

$$\begin{aligned}
\bigwedge_{a < x \leq \bar{x}-a} f^{a+}(x, y) &= \begin{cases} \frac{1}{2a\bar{x}} & x - a \leq y \leq x + a \\ 0 & \text{otherwise} \end{cases} \quad (8) \\
\bigwedge_{\bar{x}-a < x \leq \bar{x}} f^{a+}(x, y) &= \begin{cases} \frac{1}{2a\bar{x}} & x - a \leq y < -x + (2\bar{x} - a) \\ \frac{1}{a\bar{x}} & -x + (2\bar{x} - a) \leq y \leq \bar{x} \\ 0 & \text{otherwise} \end{cases}
\end{aligned}$$

is a reservation price joint density function for goods  $\mathbb{X}$  and  $\mathbb{Y}$  with uniform marginal densities.

**Proposition 2b.** Function  $f^{a+}$  for  $a \in \left(\frac{\bar{x}}{2}, \bar{x}\right]$  given by:

$$\begin{aligned}
\bigwedge_{0 \leq x \leq \bar{x}-a} f^{a+}(x, y) &= \begin{cases} \frac{1}{a\bar{x}} & 0 \leq y \leq -x + a \\ \frac{1}{2a\bar{x}} & -x + a \leq y < x + a \\ 0 & \text{otherwise} \end{cases} \\
\bigwedge_{\bar{x}-a < x \leq a} f^{a+}(x, y) &= \begin{cases} \frac{1}{a\bar{x}} & 0 \leq y \leq -x + a \\ \frac{1}{2a\bar{x}} & -x + a \leq y \leq -x + (2\bar{x} - a) \\ \frac{1}{a\bar{x}} & -x + (2\bar{x} - a) \leq y \leq \bar{x} \end{cases} \quad (9) \\
\bigwedge_{a < x \leq \bar{x}} f^{a+}(x, y) &= \begin{cases} \frac{1}{2a\bar{x}} & x - a \leq y \leq -x + (2\bar{x} - a) \\ \frac{1}{a\bar{x}} & -x + (2\bar{x} - a) < y \leq \bar{x} \\ 0 & \text{otherwise} \end{cases}
\end{aligned}$$

is a reservation price joint density function for goods  $\mathbb{X}$  and  $\mathbb{Y}$  with uniform marginal densities.

Proofs of Propositions 2a and 2b are analogous to Proposition 1a and hence are omitted. In Figure 5, we graph  $Dom f^{a+}$  for  $a \in \left(0, \frac{\bar{x}}{2}\right]$ . We skip the illustration of a positive belt-shaped domain for  $a \in \left(\frac{\bar{x}}{2}, \bar{x}\right]$ .

The reason why  $f^a$  has uniform margins is that the joint density in both triangular areas is twice bigger than the density in the rectangular area. From managerial perspective heavier triangular corners represent explicit market segments of consumers having either diverging valuations for both goods - that is low for the first and high for the second (negative belt), or converging valuations - that is low or high reservation prices for both goods (positive belt). An interesting possibility follows from the construction of  $f^a$ . Using summation of  $f^{a(\pm)}(x, y)$ , one should be able to construct a joint density function over  $Dom f^{a(\pm)} \cup Dom f^{b(\pm)}$  which also maintains uniformity of marginal distributions. Hence, our approach to bundling analysis can be applied to a wider class of demand structures. For example, one could model a situation where there are four segments of consumers having converging/diverging preferences for both goods  $\mathbb{X}$  or  $\mathbb{Y}$  or a preference for only one good, preserving linear demand functions for both components.

#### correlation of reservation prices under joint density $f^a$



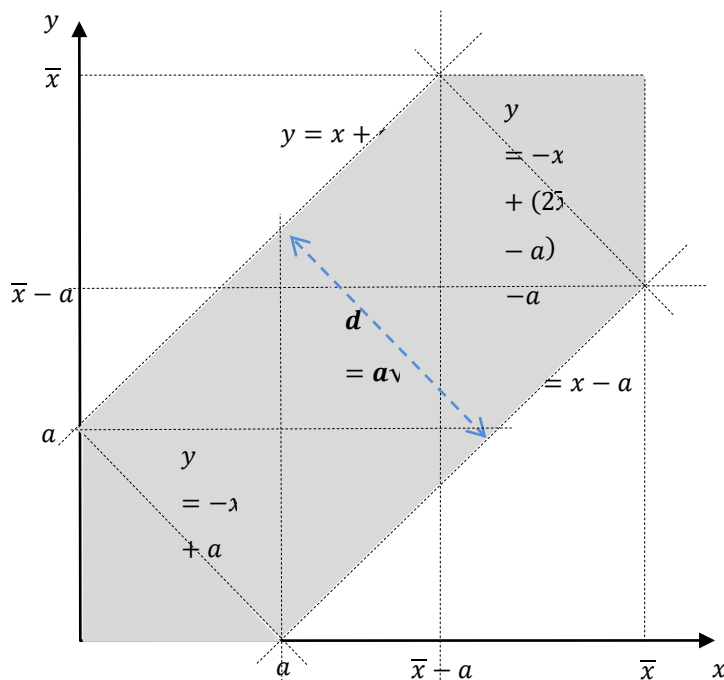
In the previous section, we have proven that  $f^a(x, y)$  has uniform margins. In this section, we derive correlation coefficient between its marginal distributions.

**Proposition 3a.** For reservation price density function  $f^{a-}$  given by (6) the correlation coefficient between the consumer's reservation prices goods  $\mathbb{X}$  and  $\mathbb{Y}$  is given by the following formula:

$$\rho_{x,y} = -\frac{a^3 - 2a^2\bar{x} + \bar{x}^3}{\bar{x}^3} \quad (10)$$

For proof see Appendix. Note that for  $a = 0$ , we obtain perfect negative correlation  $\rho_{x,y} = -1$  and for maximum value of parameter ( $a = \bar{x}$ ) we obtain  $\rho_{x,y} = 0$  (independence).

**Figure 5. Positive belt:  $\text{Dom} f^{a+}$  for  $a \in (0, \frac{\bar{x}}{2}]$ .**



**Proposition 3b.** For the reservation prices density function  $f^{a+}$  given by (8) the correlation coefficient between the consumer's reservation prices goods  $\mathbb{X}$  and  $\mathbb{Y}$  is given by the following formula:

$$\rho_{x,y} = \frac{a^3 - 2a^2\bar{x} + \bar{x}^3}{\bar{x}^3} \quad (11)$$

Derivation of this formula is analogous to (10) so we leave it without proof. For positive belt, perfect positive correlation  $\rho_{x,y} = 1$  holds for  $a = 0$  and  $\rho_{x,y} = 0$  for  $a = \bar{x}$  (independence). For both variants of joint density with a belt-shaped domain, the absolute value of correlation between individual reservation prices is nonlinearly increasing in  $a$ . With formulas (10) and (11) we are equipped to analyze optimality of monopoly pure and mixed bundling strategies for the full range of correlation and marginal costs.

### 3. SOLUTION TO BUNDLING PROBLEM

#### 3.1. Pure components strategy

For both reservation price density functions ( $f^{a-}$  and  $f^{a+}$ ) marginal density functions of good  $\mathbb{X}$  ( $f_x^{a-}$  and  $f_x^{a+}$ ) and good  $\mathbb{Y}$  ( $f_y^{a-}$  and  $f_y^{a+}$ ) do not depend on parameter  $a$  and are given by:

$$\bigwedge_{0 \leq x \leq \bar{x}} f_x^{a-}(x) = f_x^{a+}(x) = f_y^{a-}(x) = f_y^{a+}(x) = \frac{1}{\bar{x}},$$

So, the demand functions for each good under pure components are given by:

$$d_x^{PCa-}(p) = d_x^{PCa+}(p) = d_y^{PCa-}(p) = d_y^{PCa+}(p) = 1 - \frac{1}{\bar{x}}p$$

and a profit of monopolist writes:

$$\begin{aligned} \Pi_x^{PCa-}(p) &= \Pi_x^{PCa+}(p) = (p - c_x) \left(1 - \frac{1}{\bar{x}}p\right), \\ \Pi_y^{PCa-}(p) &= \Pi_y^{PCa+}(p) = (p - c_y) \left(1 - \frac{1}{\bar{x}}p\right) \end{aligned}$$

In this case first order condition are sufficient for derivation of optimal prices. Hence monopolist will choose the following prices and earn the following profits under PC strategy:

$$\begin{aligned} p_x^{PCa-} &= p_x^{PCa+} = \frac{\bar{x} + c_x}{2}, & p_y^{PCa-} &= p_y^{PCa+} = \frac{\bar{x} + c_y}{2}, \\ \Pi_x^{PCa-}(p_x^{PCa-}) &= \Pi_x^{PCa+}(p_x^{PCa+}) = \frac{(\bar{x} - c_x)^2}{4\bar{x}}, \\ \Pi_y^{PCa-}(p_y^{PCa-}) &= \Pi_y^{PCa+}(p_y^{PCa+}) = \frac{(\bar{x} - c_y)^2}{4\bar{x}}, \\ \Pi^{PCa-}(p_x^{PCa-}, p_y^{PCa-}) &= \Pi^{PCa+}(p_x^{PCa+}, p_y^{PCa+}) = \frac{(\bar{x} - c_x)^2 + (\bar{x} - c_y)^2}{4\bar{x}} \end{aligned}$$

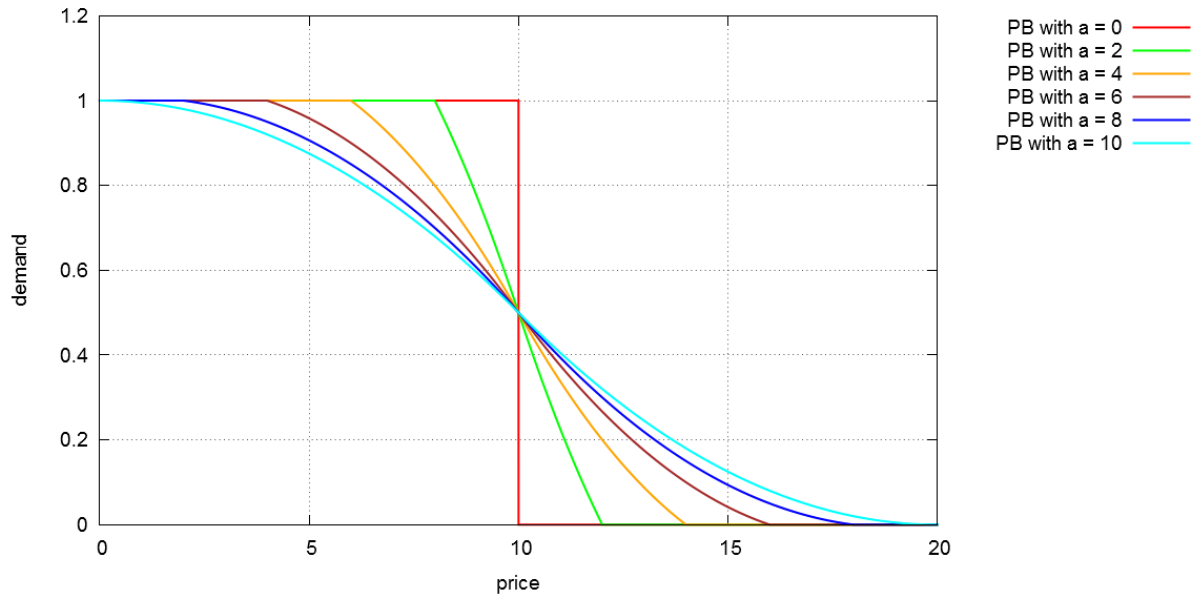
#### 3.2. pure bundling

Profitability of pure bundling for both the cases of positive and negative correlation needs to be analyzed separately.

Negative correlation:  $f^{a-}$  joint density

The graph of the demand space  $f^{a-}$  under PB strategy is presented in Figure 7. Depending on the price for the bundle, monopolist might sell to all or only to a subset of consumers located in rectangular and triangular areas of the belt-shaped domain. Thus, several cases must be considered to locate buyers depending on the price.



**Figure 8. Demand function under PB,  $d_b^{PBa-}$  for  $\bar{x} = 10$  and  $a \in (0, 10)$ .**

The profit for this demand function is given by:

$$\Pi^{PBa-}(p) = \begin{cases} (p - c_b) & 0 \leq p \leq \bar{x} - a \\ (p - c_b) \left( 1 - \frac{1}{2a\bar{x}} p(p - (\bar{x} - a)) \right) & \bar{x} - a < p \leq \bar{x} \\ (p - c_b) \left( \frac{1}{2a\bar{x}} ((\bar{x} + a) - p)(2\bar{x} - p) \right) & \bar{x} < p \leq \bar{x} + a \\ 0 & p > \bar{x} + a \end{cases}$$

First order conditions yield a closed form expression for optimal price of monopolist under PB strategy:

$$p^{opt} = \frac{\sqrt{\bar{x}^2 + (4a - c_b)\bar{x} + c_b^2 + ac_b + a^2 + \bar{x} + c_b - a}}{3}.$$

Optimal PB profit is given by:

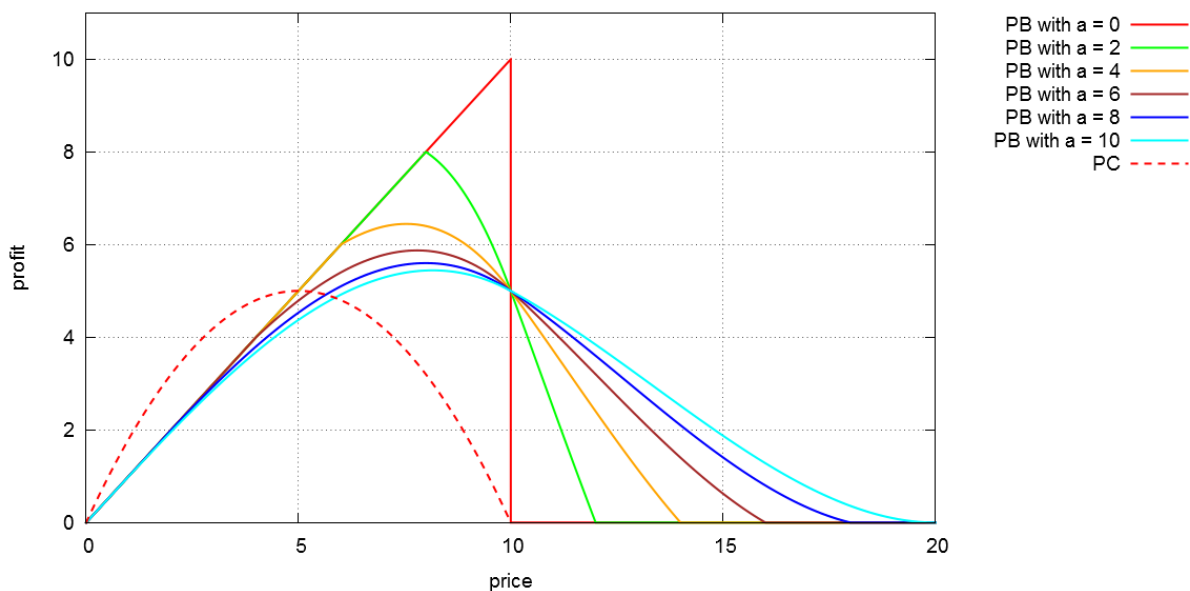
$$\Pi^{PBa-}(p^{opt}) = (p^{opt} - c_b) \left( 1 - \frac{1}{2a\bar{x}} p^{opt}(p^{opt} - (\bar{x} - a)) \right).$$

When consumer valuations are negatively correlated, monopolist using pure bundling always optimizes price on the same segment of a demand curve, but his profit obviously depends on the degree of correlation as marked by the parameter  $a$ . In Figure 9 we graph profit function  $\Pi^{PBa-}$  for  $\bar{x} = 10, c_b = 0$  and different values of correlation parameter  $a \in (0, 10)$ . As can be seen there, profit function behaves in close correspondence with the demand function shown in Figure 8. Profit takes the highest value for  $a = 0$  (perfect negative correlation) and the lowest for  $a = \bar{x}$  (independence). Marginal costs of a bundle  $c_b$  also have a substantial impact on the profitability of pure bundling. When costs are positive, those customers who have a strong preference for only one good but buy a bundle are in fact subsidized to do so. Thus, pure components might generate higher profit than pure

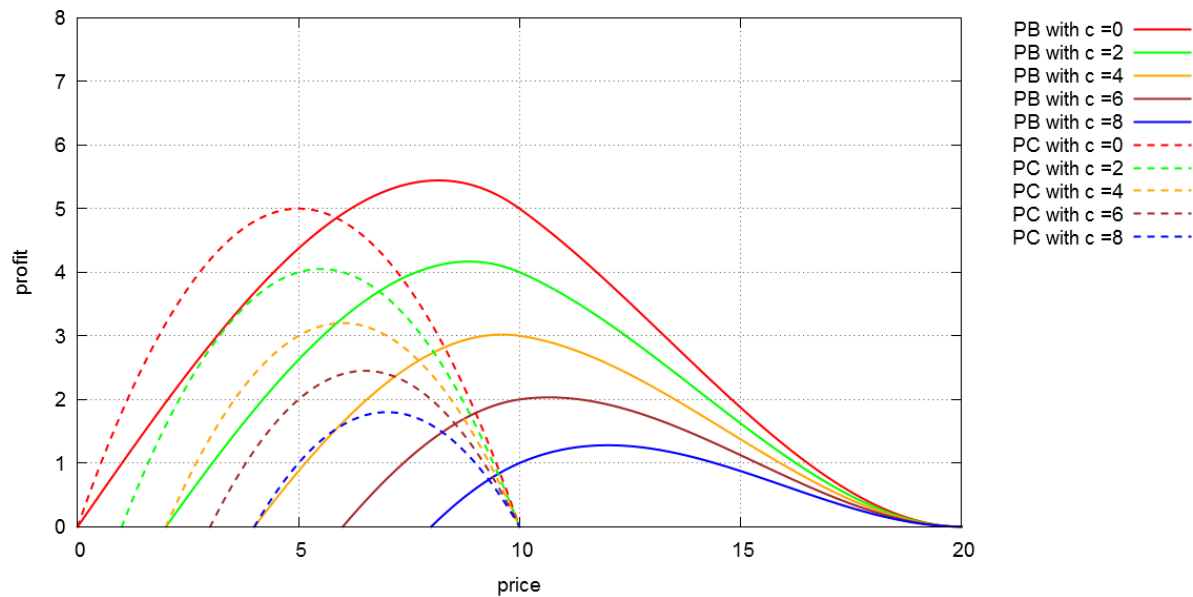
bundling for a certain level of marginal costs. In Figure 10 below, we graph profit functions  $\Pi^{PBa-}$  and  $\Pi^{PCa-}$  for  $\bar{x} = 10, a = 2$  and different values of cost parameter  $c_b \in (0,8)$ . Note that  $a = 2$  corresponds to strong negative correlation  $\rho_{x,y} = -0,92$ . Two immediate observations follow: First, optimal prices (corresponding to maximal values of profit functions) are increasing with marginal costs of component goods and the bundle which apparently restricts total demand and reduces total profits of a monopolist. For low-cost levels  $c_b = 0$  and  $c_b = 2$  profit from pure bundling is greater than from pure components as shown by dashed red and green lines. However even for very high negative correlation (note that  $a = 2$  corresponds to strong negative correlation  $\rho_{x,y} = -0,92$ ), this relation becomes reversed for a sufficiently large marginal cost. Starting from  $c_b = 4$  pure components strategy yields higher profit than pure bundling. Apparently subsidization becomes too costly and cannot be outweighed by the benefits from central segment of the demand function.

Later on, we show that for any degree of correlation, there exist marginal cost  $c_b^*$  for which both strategies generate the same level of profit. Moreover, this critical value of marginal costs for which monopolist is indifferent between both strategies is decreasing with parameter  $a$ . This means that the range of costs for which pure bundling outperforms pure components shrinks to zero with a correlation of consumer valuations. In fact, our model shows that for  $\rho > 0.2$  bundling is never better than pure components, but still can be worse off if marginal costs are large enough.

**Figure 9. Profit function under PB,  $\Pi^{PBa-}$  for  $\bar{x} = 10, c_b = 0$  and  $\in (0, 10)$  .**



**Figure 10.** Profit functions  $\Pi^{PBa-}, \Pi^{PCa-}$  for  $\bar{x} = 10, a = 2$  and  $c_b \in (0, 8)$ .

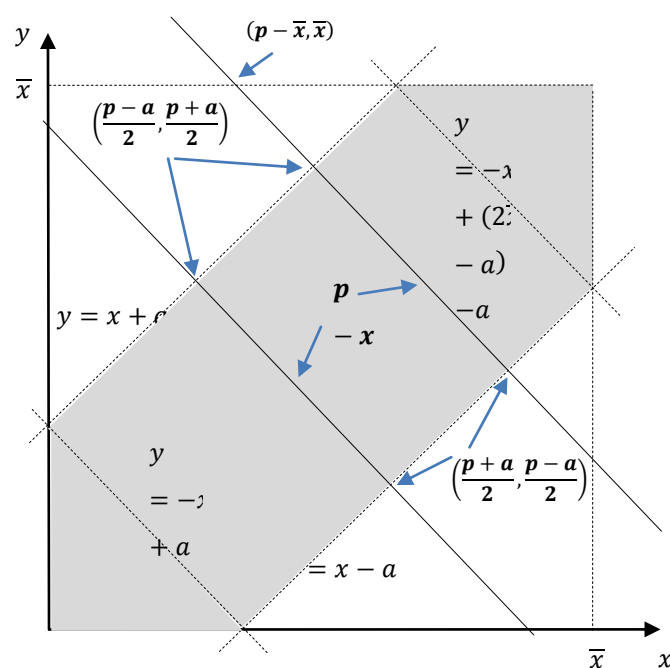


In the next subsection, we analyze a pattern of bundling optimality for the case of positively correlated demands.

Positive correlation: the  $f^{a+}$  joint density

The graph of the demand space  $f^{a+}$  under PB strategy is presented in Figure 11. Depending on the price for the bundle, monopolist might sell only to consumers located in the upper triangle or also to some or all consumers located in the rectangular area of the right belt-shaped domain. Eventually, if he sets a very low price, also customers from the lower triangle will buy.

**Figure 11.** PB strategy under left belt-shaped  $Dom f^{a+}$ .



Thus, again several cases must be considered to locate buyers depending on the price. In this case the demand function of the bundle  $d_b^{PBa+}$  is given by:

$$d_b^{PBa+}(p) = \begin{cases} 1 - \frac{1}{2a\bar{x}}p^2 & 0 \leq p \leq a \\ 1 - \frac{1}{2a\bar{x}}ap & a < p \leq 2\bar{x} - a \\ \frac{1}{2a\bar{x}}(2\bar{x} - p)^2 & 2\bar{x} - a < p \leq 2\bar{x} \\ 0 & p > 2\bar{x} \end{cases}$$

For the right belt-shaped domain demand function is composed of 3 segments out of which the middle one is linear.

The profit function from pure bundling for positive belt:  $\Pi^{PBa+}$  is given by:

$$\Pi^{PBa+}(p) = \begin{cases} (p - c_b) \left(1 - \frac{1}{2a\bar{x}}p^2\right) & 0 \leq p \leq a \\ (p - c_b) \left(1 - \frac{1}{2a\bar{x}}ap\right) & a < p \leq 2\bar{x} - a \\ (p - c_b) \left(\frac{1}{2a\bar{x}}(2\bar{x} - p)^2\right) & 2\bar{x} - a < p \leq 2\bar{x} \\ 0 & p > 2\bar{x} \end{cases}$$

Analytical optimization for positive correlation case is more lengthy and hence will be avoided here.<sup>1</sup>

Instead, we show graphically how optimal profits from both strategies behave in response to changes in the degree of correlation and level of marginal costs. In Figure 12 we draw profit function  $\Pi^{PBa+}$  for  $\bar{x} = 10, c_b = 0$  and different values of parameter  $a \in (0, 10)$ . As can be seen from there, monopolist maximizes profit from pure bundling always on the linear (least elastic) segment of a demand curve. The optimal profit takes the highest value for  $a = \bar{x} = 10$  (independence) and then for  $a < 8$  becomes irresponsive to a correlation of reservation prices. In the case of positive correlation our model predicts that pure bundling can hardly generate higher profits. Even for moderate levels of correlation pure components yield an equal profit as pure bundling.

<sup>1</sup> Note that depending on the value of correlation monopolist will optimize profits on the first or the second segment of the demand curve. The intuition behind this observation is that for sufficiently small correlation the width of the belt gets large enough, and monopolist will choose to set lower price sell to more customers including those from the more dense lower triangular area. However if the belt becomes narrower (or the costs increase) the seller will raise the price of the bundle and move to the linear segment, where optimal price does not depend on correlation (see Figure 12).

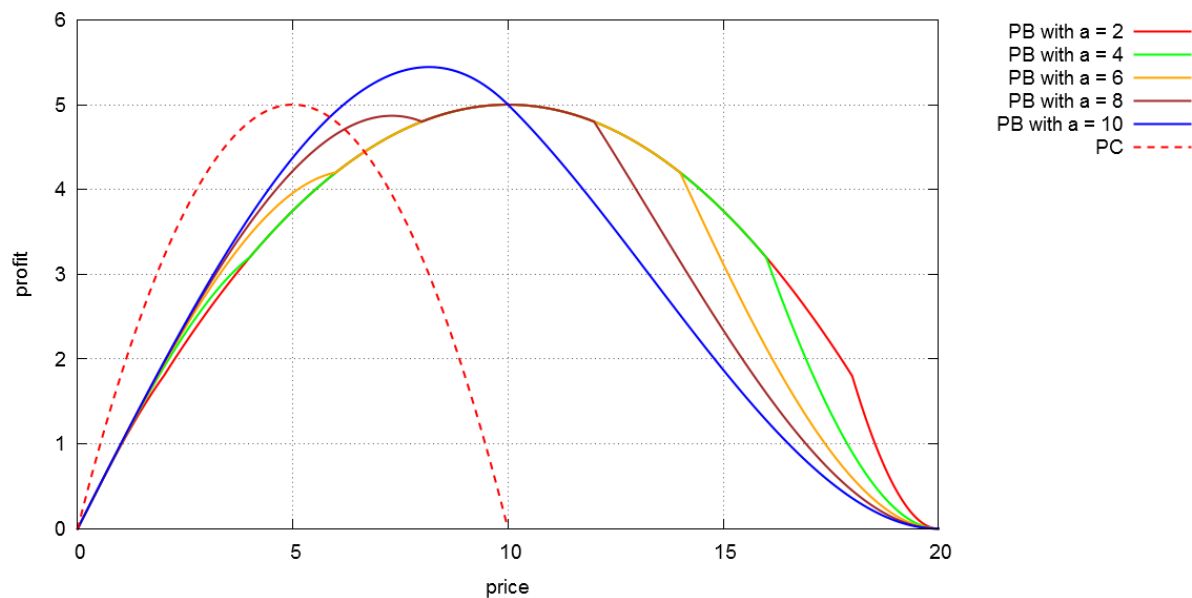
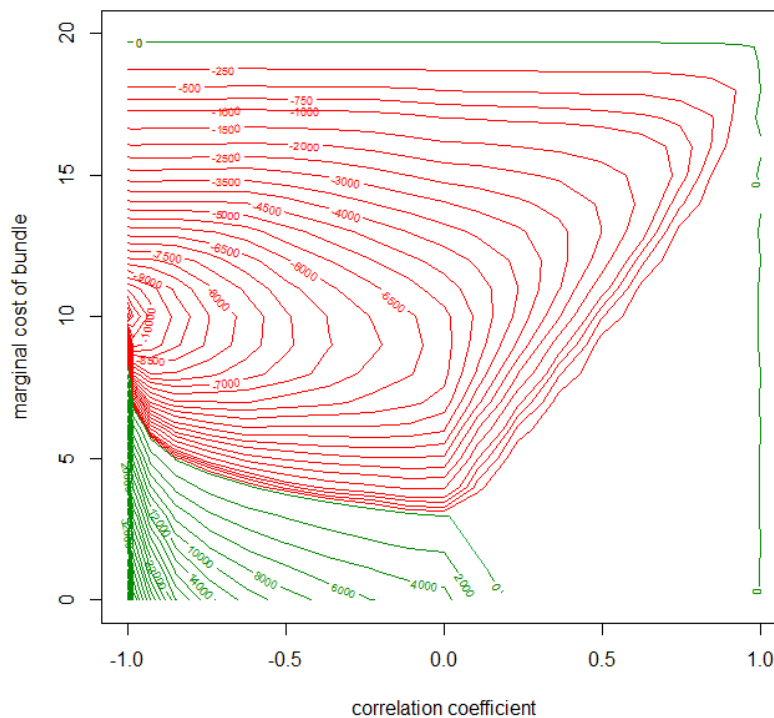
**Figure 12. Profit function under PB,  $\Pi^{PBa+}$  for  $\bar{x} = 10$ ,  $c_b = 0$  and  $\in (0, 10)$ .**

Figure 13 which compares the performance of pure components and pure bundling using iso-difference curves of optimal profits ( $\Pi^{PB} - \Pi^{PC}$ ) graphed in correlation-cost space. Full independence case is marked in the middle of the graph. The left part of Figure 13 confirms what has been already noted in the previous subsection for negative correlation case. Now we focus attention on the right part which represents positive belt:  $f^{a+}$  with  $corr \in (0, 1]$ . The zero difference curve marks correlation-cost combinations which yield equal profit from pure bundling and pure components. Red isocurves mark the area where pure bundling is profit-inferior to pure components. The green ones mark the space where pure bundling yields greater profits. For sufficiently positive correlation (approximately  $\rho > 0.2$ ) pure bundling is indeed never better from separate sales and more importantly becomes strictly worse for high enough marginal costs. Intuition which stands behind this result is the following: With growing correlation the positive belt shrinks in width implying that individual demands become more and more homogeneous. As a result, monopolist stops benefitting from the package, because of limited possibility to reduce heterogeneity of consumer demands. On the other hand, if marginal costs are large enough, monopolist using pure bundling engages in implicit subsidization of consumers. Pure components can avoid this problem while reaching the same people from the profitable central segment of pure bundling demand curve. This explains why this strategy outperforms pure bundling.<sup>1</sup>

<sup>1</sup> In a perfect correlation case, there is no subsidization at all. Hence, both strategies converge in profits for in the whole range of marginal costs



**Figure 13. Iso-difference curves for optimal profits from PB and PC strategies in correlation-cost space.**



### 3.3. Mixed bundling

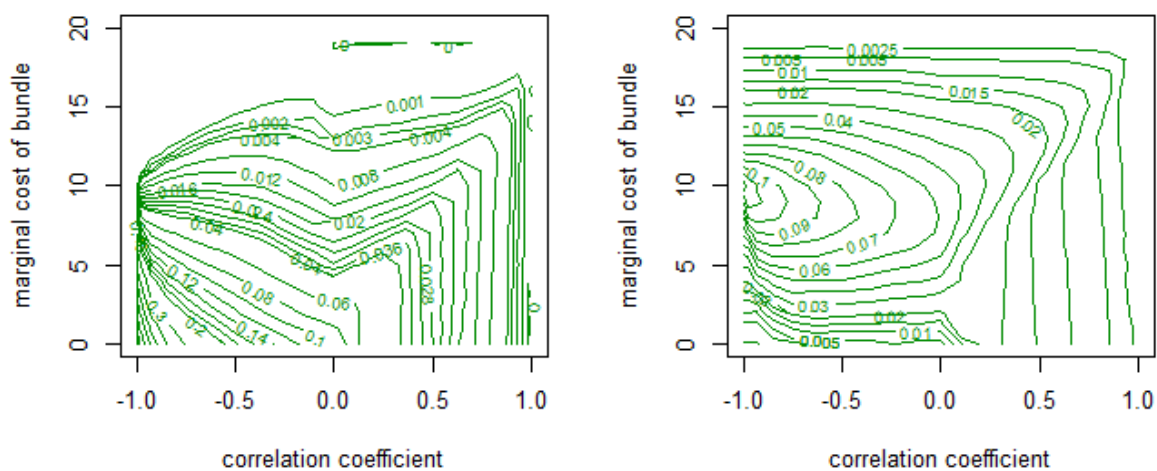
Unlike pure bundling, analytical derivation of demand and profit functions under  $f^a$  density is complicated due to a large number of cases which need to be considered for the three price parameters. For this reason, we switch to simulation techniques to obtain a complete picture.<sup>1</sup>

We use the following algorithm. First, we generate a fixed sample of  $k = 10000$  customers with uniformly distributed reservation prices:  $r \sim U[0,10]$  for each product according to the joint density  $f^a$ . Then for each variant of width parameter  $a \in [-10,10]$  and marginal cost  $c \in [0,20]$  both taken with a step 1 we find optimal prices under MB and PB. We take a smaller search step for a price (0.1) to ensure sufficient level of precision – at the expense of considerable computation burden. For mixed bundling, our algorithm checks  $100 \times 100 \times 200$  price combinations for each of  $21 \times 21$   $a, c$  variants in the sample of 10000 customers. We did robustness checks with regards to alternative parameters of simulation and are confident with the precision and reliability of results obtained for this set of parameters. In what follows, we present the profit performance of mixed bundling against pure bundling and pure components in relative terms (see Figure14 ) as well as compare simulated optimal prices with the use of iso-difference curves (in Figure 15).

<sup>1</sup> Simulations have been done in R. The code is available on request from the authors under CC-BY 4.0 license.

Figure 14 indicates mixed bundling weakly dominates both separate sales and pure bundling concerning profit levels. This result is expected because MB contains in itself the remaining two pricing instruments. Hence, with mixed bundling monopolist can always replicate any PC or PB strategy if it is optimal. What is remarkable and striking about Figure 14 is that mixed bundling offers minuscule profit gains as shown in relative terms in the left panel. Only in the bottom-left segment of the correlation-cost space advantage of mixed bundling can be considered attractive from a managerial perspective.<sup>1</sup> This segment marks either (i) a combination of high to medium negative correlation (between -1 and -0,5) and medium to low levels of marginal cost (between 50% and 25% of a mean bundle valuation) or (ii) a combination of medium to low negative correlation and costs close to zero (less than 25% of a mean bundle valuation). For close to independent or positively correlated reservation prices the profit gains from mixed bundling are close to zero regardless of the level of costs. The same is true for cost exceeding 50% of a mean valuation, regardless of the degree of correlation components valuations. Comparing optimal prices in mixed bundling and pure components which explain why the gains from mixed bundling diminish so rapidly.

**Figure 14. Simulated isocurves for the relative difference in optimal profits in correlation-cost space. Left panel presents  $(\Pi^{MB} - \Pi^{PC})/\Pi^{PC}$ , the right panel presents  $(\Pi^{MB} - \Pi^{PB})/\Pi^{PB}$ .**

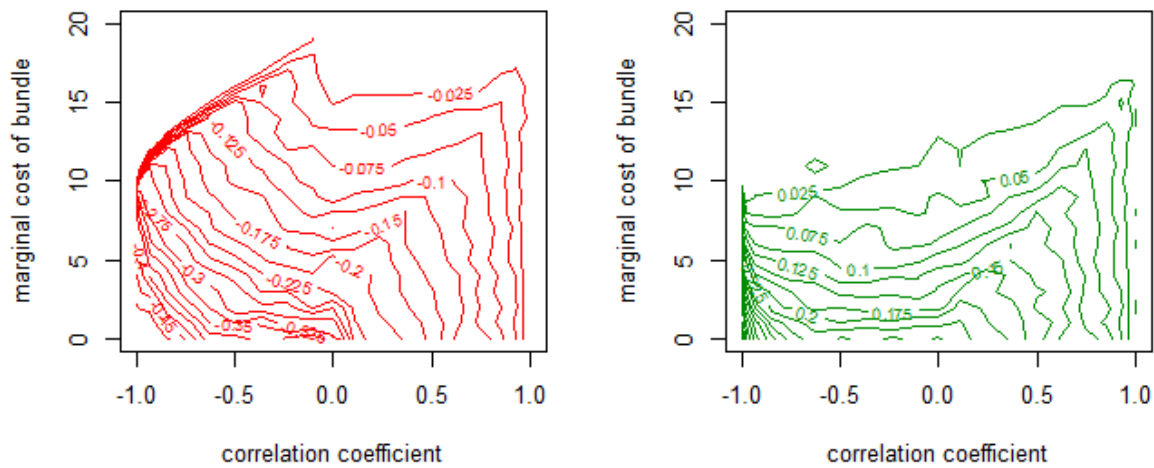


This insight is provided in Figure 15, which shows the magnitude of discount for buying a bundle offered by mixed bundling strategy (left panel) and also compares the sum of individual prices under mixed bundling and pure components (right panel).

<sup>1</sup> There is always a problem about what magnitude of gains is attractive. We acknowledge that there is no single answer to this question. The answer depends on differs across industries and depends on the level of additional fixed and variable costs resulting from implementation of bundling strategy. Therefore, we have arbitrarily set the threshold for attractive gains at rather modest 10% level relative to operating surplus from pure components.

**Figure 15. Simulated isocurves for the relative difference in optimal prices in correlation-cost space.**

Left panel presents  $(p_b^{MB} - p_1^{MB} - p_2^{MB})/(p_1^{MB} + p_2^{MB})$ , right panel presents  $(p_1^{MB} + p_2^{MB} - p_1^{PC} - p_2^{PC})/(p_1^{PC} + p_2^{PC})$ ,



Two interesting observations follow from Figure 15. First, in the segment of greatest relative gains mixed bundling works through a classical pattern, namely a combination of higher prices for component products relative to pure components and considerable discount on price for the bundle. In this way, mixed bundling can capture a greater portion of a surplus from those customers who have largely heterogeneous valuations and at the same time realize profits from those clients who have moderate valuations for both goods. Second, if cost is sufficiently high or correlation coefficient is highly positive mixed bundling converges in prices to pure components.<sup>1</sup> Although in both cases convergence effectively drives profit gains from mixed bundling to zero it is governed by two distinct mechanisms. Under growing costs, selling a bundle at a discounted price will require implicit subsidization and monopolist will gradually increase the price for a bundle relative to component prices. Eventually, mixed bundling will converge to pure components, and monopolist will stop selling bundles at all. Interestingly this result holds even for large negative correlation of reservation prices stressing a critical role of costs in solving bundling problem. For example, for  $\rho \rightarrow -1$  all consumer will value package for 10, so if costs exceed this level, monopolist starts to generate loss from selling a package. On the other hand, under large positive correlation, there are limited possibilities for reducing demand heterogeneity and hence the gains from selling bundle become very limited. Although monopolist can still earn extra profit from mixed bundling by extracting little bit more surplus from the most divergent customers at the expense of lower revenues from those buying

<sup>1</sup> We use the term convergence intuitively, meaning that individual prices are the same and a discount for buying a package is zero, which makes the price for the bundle ineffective.

a bundle, eventually for perfect positive correlation mixed bundling converges in prices to pure components.

We note two more things about mixed bundling from Figure 15. First, the zero difference isocurve in prices shown in the left panel indicates that monopolist will choose the same levels of individuals prices under pure components and mixed bundling. However, naturally those prices will rise with costs as indicated by optimal prices formula for pure bundling (see Section 3.1). Second, for  $\rho > 0$  the threshold level of costs for which gains from mixed bundling are zero increases with the degree of correlation. This happens because with growing  $\rho$  some customers are willing to pay a high price for the bundle and monopolist will be able to make positive (albeit small) profit thanks to the discriminatory power of mixed bundling strategy.

Taken as whole our results indicate that mixed bundling can rise profits maximum by 70% compared to pure components and by 11% compared to pure bundling. The distribution of gains in correlation-cost space reveals that the sufficient benefits from mixed bundling can be realized only for a specific combination of both very low marginal costs and relatively high negative correlation of valuations. In all other cases the gains from mixed bundling are negligible, undermining the rationale for implementation of this strategy. Our model also reveals the critical role of costs for bundling problem. This is best seen for large negative correlation, where profit gains from bundling are the most sensitive to cost increases because of the largest reduction in demand heterogeneity. We believe that both conclusions from our linear model are interesting from a managerial perspective as they indicate that bundling will better enough to justify its implementation only for low-cost services and only under a specific pattern of component demands dependency.

#### 4. SUMMARY AND CONCLUSIONS

In this paper, we look at the magnitude of profit gains from mixed bundling. We introduce a model of reservation price space which yields linear market demands for both component goods. Our analysis of bundling gains is carried out for the whole possible range of marginal costs and degree of correlation of valuations of bundle components. Our results in principle show that bundling can generate sufficient gains only in low marginal cost industries provided that demands are sufficiently negatively correlated. In this way, our results conform with practical observations that bundling is applicable mainly to ICT services or more broadly to information goods.<sup>1</sup>

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<sup>1</sup> Fixed line services typically meet both criteria. Marginal costs of broadband and telephony are close to zero and market demand is segmented in a way which ensures negative correlation. Younger consumers do not value fixed line telephony as they use IP or mobile telephony. On the other hand, older customers are not interested in broadband but are attached to traditional telephony service.

Our study contributes to the bundling problem in two ways. First, we focus on profit gains rather than simply on profit dominance. We believe that this perspective is more insightful from a managerial standpoint. We argue that weakly dominance result has no practical importance for managers, as it does not tell under which conditions mixed bundling can be expected to outperform the two remaining sales formats strictly and by how much. Our perspective requires shifting from local improvement considerations towards global optimum search. Secondly, we propose an analytical framework that has some desired properties which enable us to carry out global analysis. More specifically, we introduce a joint reservation price space which on one hand preserves linearity of market demand for individual goods – a feature which often is assumed not only in theoretical models but serves as a starting point in practical analyzes. Our so called ‘belt shaped’ density function allows to capture underlying correlation with a single parameter and yields analytically tractable demand and profit functions under pure bundling strategy. Approaches that have been explored so far in normative bundling literature, like uniform and Gaussian densities of customer valuations, miss one or the other element. Our model of reservation price space encompasses several situations so far analyzed in literature as special cases, like perfect correlation or full independence of valuations.

Two results follow from our study. First, mixed bundling is weakly dominant in payoff over pure bundling and pure components for all levels of marginal costs and any degree of correlation of consumers’ reservation prices. This common sense result is just a confirmation of earlier findings. Moreover, we show that benefits from implementation of mixed bundling strategy vary significantly and are negligible for the wide range of correlation-cost combinations, as appears in our model. We assess bundling gains with arbitrary assumption that 10% markup over profits from pure components is sufficient to cover its implementation. The fact that mixed bundling rarely exceeds this rather modest threshold is the most astonishing finding from our study.

Our results point to the critical role of marginal costs for the optimality of bundling. Earlier bundling literature has argued that under high negative correlation, bundling reduces demand heterogeneity and makes market demand less elastic. We show that with growing marginal costs pure bundling sooner starts to generate losses because of homogeneity of bundling valuations.

Our results are not encouraging for implementation of bundling. Sufficient profit gains from mixed bundling can be expected only under a specific combination of both very low marginal costs and relatively high negative correlation of valuations. Given that usually firms have limited knowledge about the dependency of individual demands, they might choose to use a safer pure components strategy to avoid a risk of uncontrolled subsidization of its customers. Moreover, with incomplete information about the demand, it might be difficult to find an optimal vector of mixed bundling prices.

Our model is limited and could be extended several ways. By construction, our 'belt-shaped' reservation price space corresponds to market with two distinct segments (marked by triangular areas with double density) and also a mass of consumers in between. One can try to use mixtures of bivariate distributions to cover demand structures, which are closer to reality. Four segments of customers with divergent and convergent valuations for both goods would be an interesting case to study. Another limitation of the current study is that we have focused solely on profit gains and did not consider welfare changes. Our analysis is also restricted by the usual simplifying assumptions adopted in bundling models such as additivity of reservation prices and unit costs. Relaxing each of them would bring more in-depth insights about a potential of bundling in real market applications.

## ACKNOWLEDGEMENTS

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## APPENDIX

Proof of Proposition 2a.

First, we check that function  $f^{a-}$  has properties of the reservation prices density function requested in

Definition 1:

1.  $\text{Dom}f = [0, \bar{x}] \times [0, \bar{x}] \subset \bar{\mathbb{R}}^2$ , where  $\bar{x} > 0$ ,
2.  $\text{Ran}f \subset \mathbb{R}$  and  $f^{a-}(x, y) \geq 0$  for all  $(x, y)$  in  $[0, \bar{x}] \times [0, \bar{x}]$ ,
3.  $\iint_{[0, \bar{x}] \times [0, \bar{x}]} f(x, y) dy dx$  can be calculated in the following way:

$$\begin{aligned}
 &= \int_0^a dx \int_{-x+(\bar{x}-a)}^{x+(\bar{x}-a)} f^{a-}(x, y) dy + \int_0^a dx \int_{x+(\bar{x}-a)}^{\bar{x}} f^{a-}(x, y) dy + \\
 &+ \int_a^{\bar{x}-a} dx \int_{-x+(\bar{x}-a)}^{-x+(\bar{x}+a)} f^{a-}(x, y) dy + \int_a^{\bar{x}} dx \int_0^{x-(\bar{x}-a)} f^{a-}(x, y) dy + \\
 &+ \int_{\bar{x}-a}^{\bar{x}} dx \int_{x-(\bar{x}-a)}^{-x+(\bar{x}+a)} f^{a-}(x, y) dy = 1.
 \end{aligned}$$

Since  $f^{a-}$  is indeed a proper density function we calculate marginal densities. The reservation prices density function of good X:  $f_x^{a-}$  is given by:

$$\begin{aligned}
 \bigwedge_{0 \leq x \leq a} f_x^{a-}(x) &= \int_{-x+(\bar{x}-a)}^{x+(\bar{x}-a)} f^{a-}(x, y) dy + \int_{x+(\bar{x}-a)}^{\bar{x}} f^{a-}(x, y) dy = \frac{1}{\bar{x}} \\
 \bigwedge_{a \leq x \leq \bar{x}-a} f_x^{a-}(x) &= \int_{-x+(\bar{x}-a)}^{-x+(\bar{x}+a)} f^{a-}(x, y) dy = \frac{1}{\bar{x}} \\
 \bigwedge_{\bar{x}-a < x \leq \bar{x}} f_x^{a-}(x) &= \int_0^{x-(\bar{x}-a)} f^{a-}(x, y) dy + \int_{x-(\bar{x}-a)}^{-x+(\bar{x}+a)} f^{a-}(x, y) dy = \frac{1}{\bar{x}}
 \end{aligned}$$

The reservation prices density function of good Y:  $f_y^{a-}$  is given by:

$$\begin{aligned}
 \bigwedge_{0 \leq y \leq a} f_y^{a-}(y) &= \int_{-y+(\bar{x}-a)}^{y+(\bar{x}-a)} f^{a-}(x, y) dx + \int_{y+(\bar{x}-a)}^{\bar{x}} f^{a-}(x, y) dx = \frac{1}{\bar{x}} \\
 \bigwedge_{a \leq y \leq \bar{x}-a} f_y^{a-}(y) &= \int_{-y+(\bar{x}-a)}^{-y+(\bar{x}+a)} f^{a-}(x, y) dx = \frac{1}{\bar{x}} \\
 \bigwedge_{\bar{x}-a < y \leq \bar{x}} f_y^{a-}(y) &= \int_0^{y-(\bar{x}-a)} f^{a-}(x, y) dx + \int_{y-(\bar{x}-a)}^{-y+(\bar{x}+a)} f^{a-}(x, y) dy = \frac{1}{\bar{x}}.
 \end{aligned}$$

Thus both marginal densities:  $f_x^{a-}$  and:  $f_y^{a-}$  are uniform for  $a \in \left(0, \frac{\bar{x}}{2}\right]$ .

Q.E.D

Proof of Proposition 3a.

For the case of only two random variables  $X, Y$  generic formula for correlation writes:

$$\rho(X, Y) = \frac{\text{COV}(X, Y)}{\sqrt{\text{VAR}(X) \cdot \text{VAR}(Y)}} = \frac{E(XY) - E(X) \cdot E(Y)}{\sqrt{\text{VAR}(X) \cdot \text{VAR}(Y)}} \quad (1a)$$

where the nominator of (1a) stands for covariance between variables and denominator denotes a product of their variances. Because  $f_x^{a-}(x) = \frac{1}{x}$  for  $x \in [0, \bar{x}]$

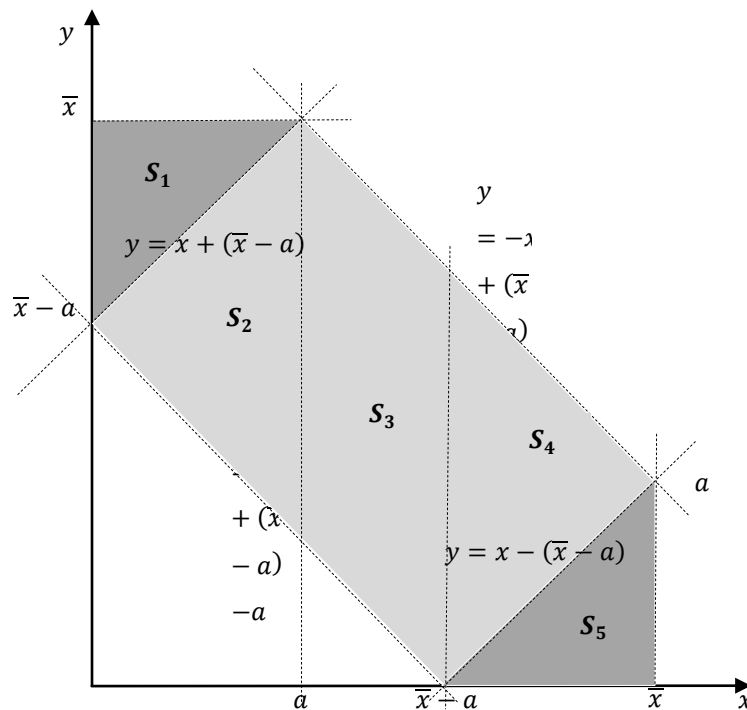
$$E(X) = E(Y) = \frac{\bar{x}}{2} \text{ and } \text{VAR}(X) = \text{VAR}(Y) = \frac{\bar{x}^2}{12}$$

So it remains to calculate  $E(XY)$  which by definition is

$$E(XY) = \iint_{(x,y) \in \text{Dom}f^{a-}} xyf^{a-}(x, y) dx dy \quad (2a)$$

To conduct this integration we divided  $\text{Dom}f^{a-}$  for  $a \in (0, \frac{\bar{x}}{2}]$  as shown in Fig. A.1.

**Figure A.1. Graph of the subsets of  $\text{Dom}f^{a-}$  for  $a \in (0, \frac{\bar{x}}{2}]$ .**



Where:

$$\begin{aligned} S_1 &= \{(x, y) \in \text{Dom}f^{a-} | 0 \leq x \leq a \text{ and } x + (\bar{x} - a) \leq y \leq \bar{x}\} \\ S_2 &= \{(x, y) \in \text{Dom}f^{a-} | 0 \leq x \leq a \text{ and } -x + (\bar{x} - a) \leq y < +(\bar{x} - a)\} \\ S_3 &= \{(x, y) \in \text{Dom}f^{a-} | a < \leq \bar{x} - a \text{ and } -x + (\bar{x} - a) \leq y \leq -x + (\bar{x} + a)\} \\ S_4 &= \{(x, y) \in \text{Dom}f^{a-} | \bar{x} - a < \leq \bar{x} \text{ and } x - (\bar{x} - a) < \leq - + (\bar{x} + a)\} \\ S_5 &= \{(x, y) \in \text{Dom}f^{a-} | \bar{x} - a < \leq \bar{x} \text{ and } 0 \leq y \leq x - (\bar{x} - a)\} \end{aligned}$$



Expected value in (2a) is the sum of five integrals

$$E(XY) = \sum_{i=1}^5 \left[ \int_{x \in S_i} x \left( \int_{y \in S_i} y f^{a-}(x, y) dy \right) dx \right]$$

which can be easily evaluated for each  $S_i$ :

For  $i = 1$

$$\int_0^a x \left( \int_{x+(\bar{x}-a)}^{\bar{x}} y \frac{1}{a\bar{x}} dy \right) dx = \frac{a^2(4\bar{x} - a)}{24\bar{x}}$$

For  $i = 2$

$$\int_{x=0}^a x \left( \int_{-x+(\bar{x}-a)}^{x+(\bar{x}-a)} y \frac{1}{2a\bar{x}} dy \right) dx = \frac{a^2(\bar{x} - a)}{3\bar{x}}$$

For  $i = 3$

$$\int_a^{\bar{x}-a} x \left( \int_{-x+(\bar{x}-a)}^{-x+(\bar{x}+a)} y \frac{1}{2a\bar{x}} dy \right) dx = \frac{4a^3 - 6a^2\bar{x} + \bar{x}^3}{6\bar{x}}$$

For  $i = 4$

$$\int_{\bar{x}-a}^{\bar{x}} x \left( \int_{x-(\bar{x}-a)}^{-x+(\bar{x}+a)} y \frac{1}{2a\bar{x}} dy \right) dx = \frac{a^2(3\bar{x} - 2a)}{6\bar{x}}$$

For  $i = 5$

$$\int_{\bar{x}-a}^R x \left( \int_0^{x-(\bar{x}-a)} y \frac{1}{a\bar{x}} dy \right) dx = \frac{a^2(4\bar{x} - a)}{24\bar{x}}$$

Finally, given  $E(XY) = -\frac{a^3 - 2a^2\bar{x} - 2\bar{x}^3}{12\bar{x}}$  we obtain correlation coefficient as in formula (10) Q.E.D.

## MENTOR IN EDUCATION AND BUSINESS – INTELLIGENCES AND COMPETENCIES

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### ABSTRACT

Mentoring is one of the most effective tools at promoting professional development. In literature there is a subtle line between mentoring and coaching activity within organization.

This research aims to highlight the importance of intelligence in developing competencies for a mentor. In practice, we find mentors with different abilities and competencies according to the environment where they develop activity, in a private or public organization. Depending on situation, the mentor can make recommendation for training, provides continuing advice and assistance and evaluates progress of the mentee. For this occupation the article provide an analysis based on observation, for different professional or occupational standards, in countries as USA, Canada, UK. From this comparative analysis we can observe that the mentor does not operates only in education field, he can also influence the organizational culture at the workplace. A good mentor is defined by a strong emotional intelligence, social and interpersonal competencies and also skills.

Another aspect analysed in this paper is related to formal or informal mentoring. Practice activity shows that employees are getting benefits especially from informal mentoring relationships. Through this empirical research we try to identify new patterns of behaviour in mentor training and correlate them with organizational benefits of mentoring.

**Keywords:** *mentoring, education, leadership, management, organizational culture, mentor occupation, behavior model, emotional intelligence;*

### INTRODUCTION

According to Martin et al., “the main concepts that characterize the mentorship are: (1) Mentoring, as a process of transferring information and creating skills from experienced persons to beginners; (2) The Mentor, as a person capable to offer guidance and to gradually help the other person to initiate in a professional area; (3) Mentoring relationships, as a collaboration on a limited period of time, between a person called mentor and a beneficiary, in this relationship the first supports the latter to follow the predefined objectives (Martin et al, 2011).

The paper goal is to explain the link between intelligences, competencies and mentoring activity. For this, it will be presented a short literature review on intelligences and would be identified a series of roles that a mentor might provide in his relationship with the mentees, but also will be given three examples of mentoring standard in different countries.

## SHORT REVIEW REGARDING THE TYPES OF INTELLIGENCES

Even though at the beginning, the theory of multiple intelligences has been widely used in education with applications especially for pupils, Howard Gardner has shown interest in expanding its applications in the work place, so in working with adult people (Gardner, 2006). This is why, the Theory of Multiple Intelligences may become a very useful tool that may be incorporated in the mentoring activity.

In S. Covey's concept about the types of intelligence, the most popular and frequently analyzed are: 1- Thinking (IQ) - is the ability to analyze, rationalize and communicate; 2- Sense (EQ) - called "left brain" is self-awareness, self-knowledge, and represent empathy.

Robert Cooper (1997) argues that man has three brains (intelligence) in: the head area (what we call the brain usually); heart – the second brain; the intestines – the thord brain.

Reuven Bar-On (1997) groups the intelligence components as follows: • intrapersonal appearance (awareness of their own emotions, optimism, respect, self-fulfillment, independence); • interpersonal aspect (empathy, interpersonal relations, social responsibility); • adaptation (problem solving, reality testing, flexibility); • stress control (stress tolerance, the control of impulse); • general provision (happiness, optimism).

Daniel Goleman's vision (2006) regarding the components of emotional intelligence are: • self-awareness; • self-control; • motivation; • empathy; • social skills.

Brain works not only as a computer, the cognitive reasoning alone can not explain the complete human intelligence. Research on brain function must take into account the spiritual aspect, too.

Zohar and Marshall (1994) has described three aspects of intelligence. The first is the intellect or the rational intelligence (IQ), which would be the intelligence "to solve strategic or logic issues". The second intelligence is emotional intelligence (EQ), a "basic requirement for effective use of IQ." The third is spiritual intelligence (SQ), which is "necessary foundation for efficient operation both IQ and EQ".

The transforming power of spiritual intelligence differs from IQ and EQ, and in the same time integrates them. IQ solve logical problems first. EQ allows us to judge the situation in which we find ourselves and to behave appropriately. SQ allows us to ask whether we want to be in that situation and can motivate us to create a new one. SQ is not related to religion. Spiritual intelligence is related to the inner life of mind and spirit and its relationship with the concept of being in the world. Spiritual

intelligence gives a profound understanding of existential questions and insight into many levels of consciousness.

Multiple Intelligences in mentoring helps the process to become more personalized. Teachers become more aware of their intellectual competences and become able to personalize the teaching-learning process. (Constantinescu, 2014)

Morton-Cooper and Palmer (2000) identified numerous roles that mentors undertake while guiding and supporting students in the clinical setting. Some of the most important roles include the following:

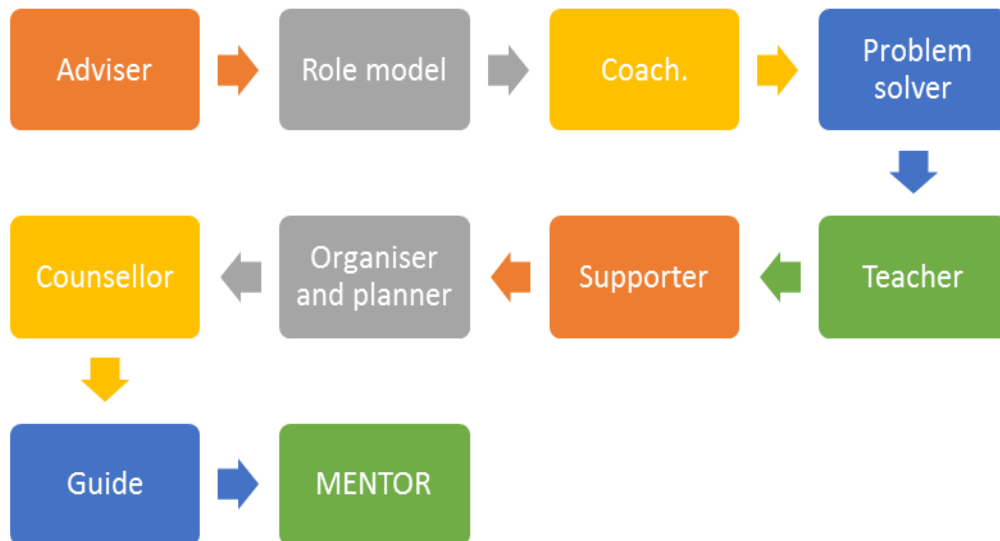


Figure 1. Roles of a mentor, personal approach on Morton-Cooper and Palmer (2000)

## BEHAVIOR AND ATTITUDE IN MENTORSHIP

The behavior consists of attitude and action. Attitude can be manifested or unmanifested. When we talk of attitude manifested outwardly. (Bagozzi, 1986)

As an alternative to the personality theories, behavioral theories were developed, which remain centered on person, but change the angle of its investigation.

Some authors equate the attitude and the way of thinking. From a managerial perspective, however, the attitude is a result of intra-psychic way of thinking.

The attitudinal manifestation can be made verbal, nonverbal and paraverbal. The attitude that does not show, is the result of perceptive way of thinking, a result seen as a finished product of the thinking. Attitude manifests intra-psychic, but not outside. It is actually an internal perception and perception is altered by errors, as selectivity, attention, etc.

For instance, Rudolf Carnap does not have a key aim in prohibiting the choice of an individual in terms of logical thinking. It is actually of making one explore the consequences of such choices. He states that logic has no moral principles. Everyone is free to build their own form of logic, i.e. as well as their particular language expressivity as they wish. (Nita, 2014 a). For Carnap, choosing the preferable language of expressivity is a pragmatic method (Restall, 2002).

## INTELLIGENCES AND MENTORSHIP. INTEGRATION THROUGH TRANSDISCIPLINARITY

First of all, the human mind must **integrate** the truths (economic, legal, medical etc), more exactly the different perceptions of different persons with our own perception. By **harmonizing** them afterwards at an intrapsychic level, but also at the level of the individuals, we get to a result. The final step is to check whether the process has ensured or not the **Self-Coherence!**

When it comes to types of truth, we must keep in mind that truths are limited perceptions. To understand this better we inanimate introduction of a concept to harmonize these perceptions: transdisciplinarity.

Transdisciplinarity means the greatest degree of knowledge in relation to other concept sphere of interdisciplinary and multidisciplinary. It is the most complex form of communication between disciplines and aims at the understanding of the present world, seen from the perspective of all sciences existing that can integrate them underlines the common points of overlap in order to form a new discipline or reveal a complex truth about an studied object. (Nicolescu, 2002; Klein, 2004)

The three pillars of transdisciplinarity are: the levels of reality, the logic of the included third, and complexity.

Levels of reality refers to the study of a single perspective of an object, that by knowing they limited in terms of transdisciplinary, issue a theory assumed to be true that from another perspective, by observing on another level of reality, it can be considered false. Specifically, each study viewed in terms of a single domain have a specific application in one level of reality.

The merit for the development of the excluded third belongs to Stefan Lupaşcu who showed it's genuine, formalized, multivalent and non-contradictory logic. Stefan Lupaşcu was a pioneer and inspired the philosophy of discoveries made by quantum physics, but was not fully understood by his contemporaries in the same field, maybe because of the lack of expression "levels of reality" without which he couldn't very well be finalizing his idea (Nicolescu, 2008).

At birth a human being has no mental representation; the human body at birth has an energetic body attached, a bio field, and an energetic protecting shield against cosmic radiations belonging to our Solar System or outside it, even from the Universe itself. In time, the human body starts adapting through the receptive human sensory analyzers to a dualism of an external energetic environment (low and high vibrations). (Nita, 2013)

Improving attitude means refining capacity of synthesis and integration of different perceptions. In this regard, we need to integrate and harmonize perceptions of x, y, z, and form our attitude according to our personal way of thinking. Mind separates, compares, but forget to integrate. It separate, depending on the experience. Hence attitudes differ from individual to individ. Accumulations are theoretical logical-rational knowledge or emotions. Partial and incomplete truth results are depending on the level of accumulation of the individual.

Starting from the Product/Management-Image matrix (Nita, 2014 b), we can translate the work principle and obtain a behaviour matrix.

	Conscious attitude	Unconscious attitude
Conscious action	+/+	+/-
Unconscious action	-/+	-/-

*Table 1. The action-attitude matrix, personal approach on Osho (2014)*

In any human group, the mentor or leader, has the ability to influence the emotions of all. If emotions are channeled into enthusiasm, it will lead to performance.

When the mentor is channeling emotions in a positive direction, a phenomenon called resonance is born, and otherwise the phenomenon is called dissonance. Emotional intelligence is an important part of a mentor's ability to successfully contribute to development of an organization where he work or with the people he advise and counsell.

By intention we focus our attention to a point. Thus we acknowledge the attitude. Awareness is very important for a mentor. This helps him not to remain in an inertial behavior.

## STANDARDIZATION OF MENTORING

For this part of the research, it will be provided an analysis based on observation of three occupational standard for mentor. These standards were created in different periods of time, for instance the mentor individuals standard in UK was approved in march 2012, in Romania it was approved in 1999, while in Canada it is applied since 2007.

	Occupational Standard in UK -Mentor individuals-	Occupational Standard in Romania - Mentor-	Occupational Standard in Canada - Mentor -
Purpose	- develop and maintain people performance	- responsibility to lead and coordinate students	- responsible of the planning profession
Competencies	- seek opportunities to improve performance - find practical ways to overcome obstacles - support others to make effective use of their abilities - give feedback to others to help them maintain and improve their performance - model behaviour that shows, and inspires others to show, respect, helpfulness and cooperation	- interactive communication - communication mentor – trainee - maintaining balance in the working group - develop capacities of teaching knowledge and training skills - guiding students in designing of the didactic project	- knowledge and skill in the structure and process of the mentoring relationship, - skill to cope with challenges arising within a mentoring - relationship, and understanding of the roles and responsibilities of a mentor, - recognition of dysfunction in a mentoring relationship
Skills and Abilities	- communicating, empathising, empowering, evaluating, influencing, information management, leading by example	- analysis and synthesis capacity, generalization and abstractization, distributive attention, interactive and interpersonal communication,	- demonstrated competence in the subject matter of their discipline or area of specialization, individual's emotional self-awareness and receptivity, capacity to communicate empathy, respect and compassion.

Table 2. Comparative analysis on mentoring

Source: ([www.anc.edu.ro](http://www.anc.edu.ro)), ([www.nos.ukces.org.uk](http://www.nos.ukces.org.uk)), ([www.esdc.gc.ca](http://www.esdc.gc.ca))

From the table above we can observe that mentoring activity it has broadened its coverage and become more complex, but is still related to formal or non-formal learning activities.

## CONCLUSION

In order to speak about competencies and abilities, we need to take a look at intelligences type. As Gardner pointed out, multiple intelligences don't have application only for pupils, but also in the work place. This is why companies choose to evaluate their employees using multiple intelligences tests, in order to match the person abilities and skills, with job description.

Integrating the truth that reveals from intellectual intelligence, or emotional intelligence, can be done only through transdisciplinarity concept and by the use of spiritual or quantum intelligence.

Mentoring is both a professional and a vocational occupation, and it requires knowledge, self-awareness, positive values and leadership abilities.

This paper give a starting point in analyzing mentorship activity, which includes various skills, competencies, behaviour, and above all, ethics. Mentoring in general is about responsibility and Innovation, Entrepreneurship and Digital Ecosystems

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support in development of others - the mentees. This is why, in the matter of intelligences, mentor should be at least emotional intelligent.

The study contribution consist in defining an behaviour pattern for mentor, based on the four cases that result from behavioural matrix described in this paper. From the action-attitude matrix we can conclude that mentor behaviour is influenced by his level of consciousness. Being conscious both in attitude and actions, the mentor will provide a series of benefits for the organization: helps the mentees in understanding and adapting to the organization's culture; improves interpersonal relationship skills, networking, provide a role model, knowledge transfer.

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## LEADERSHIP AND MENTORING WITHIN THE ORGANIZATION

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### ABSTRACT

About mentoring and leadership plenty of books and outstanding journals have been written by now. Unfortunately there are not too many about the relation between these two concepts and the socio-economic liaison between them.

This short presentation intends to be a small introduction into what the fundamental concepts known from economics could become if the psychological approaches are revitalised through complex system theory.

**Keywords:** *mentoring, leadership, management, human resources*

### INTRODUCTION

Leadership and mentoring are two key concepts when we look at any organizational culture.

Mentorship, leadership and management are applied within organizations in close connection with the organizational culture.

Geert Hofstede (1991) has provided a concise definition of culture: culture is the software of the mind, a program that makes people mentally to behave in a certain way. These words, captures the essence of culture: deeply rooted in the mind, in our subconscious, it determines our every action.

Terms as leader and mentor are often confused and used to present same characteristics. The truth is, in reality, that these two concepts although assume the same perspective team management but differ greatly.

Often, mentoring is considered as part of leadership, an essential characteristic and skill of a leader. (Vance, 2001) Mentoring activity even it is a way of leading by example or motivate the employees, it's not necessarily the leader attribution. From this hypothesis the paper provide a distinction between formal and informal mentoring activity on the one hand and leader and mentor as individuals on the other. The research aims to analyse the mentor occupation, by comparing some occupational standards from European Union member states. It also provides a new approach regarding the mentoring understanding and responsibility of top management. The purpose of this analysis is mainly to highlight the importance of a mentor in a private or public organization. We often remark at the top management level, different types of leader, the political placed one, or the specialist. But there is the third situation, where the leader doesn't occupy any position in top management, yet he is

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appreciated and recognized by the others as being a leader and a mentor. Through this article it will be provided a new model for leadership, by the fusion of these leaders' features, in order to adapt the mentorship pillars to a performance business.

The effects of organizational culture can be seen both in long terms by controlling relationships between the leader and his members and in short term seen as the main way of integration into the team of all his members.

Organizational culture is the one that creates significance connections between the team members meant to consolidate the community. Organizational Culture creates a strong link with the existent values representing the standards collective values, beliefs and customs rules.

Organizational culture is the interaction between members regardless the hierarchical level where they are situated, by identifying common elements.

Culture diversity increasingly greater and greater brings new approaches reflected in the organizational culture that can be present positive cultures characterized by the homogeneity of values and performance. This type of culture can be perceived as a rigid one, hard to change because of the high standards adopted;

In the same time, exist also a negative culture found usually in big corporations, mostly based on concepts and bureaucracy where the interest is oriented to customers and not to employees.

Organizational culture is also influenced by the manner of taking decisions, form of organization or management style. Therefore we can say that leadership has a direct influence on the culture of an organization.

Leadership and mentoring are two key concepts when we look at any organizational culture. Often, mentoring is considered as part of leadership, an essential characteristic and skill of a leader. Mentoring activity even it is a way of leading by example or motivate the employees, it's not necessarily the leader attribution. From this hypothesis the paper provide a distinction between formal and informal mentoring activity on the one hand and leader and mentor as individuals on the other. The research aims to provide a new approach regarding the mentoring understanding and responsibility of top management (Voegtlin and Greenwood, 2016).

Regarding the correlation between aims and results, this analysis is mainly to highlight the importance of a mentor in a private or public organization. We often remark at the top management level, different types of leader, the political placed one, or the specialist. But there is the third situation, where the leader doesn't occupy any position in top management, yet he is appreciated and recognized by the others as being a leader and a mentor. Through this article the authors, will identify elements needed to provide a new model for leadership, by the fusion of these leaders' features, in order to adapt the mentorship pillars to a performance business.

For this research, we examined the trends in the mentorship literature and from this point we analyse a new perspective for further development.

## **DEFINING MENTOR /MENTORSHIP AND LEADER/LEADERSHIP**

For a better understanding of what a mentor is, we selected from literature relevant definitions of this concept, as following. Mentor can be: “a trusted guide or friend -young people today do not get much of an opportunity to be friends with adults, especially adults who are going to listen to them; a caring, responsible adult-he or she provides access to people, places and things outside the mentee’s routine environment; a positive role model- a mentor may be a positive role model. A role model is someone the youth aspires to be like, whereas a mentor is someone who offers to help the youth be whoever he or she wants to be. Today, youth have many role models; however, they are not necessarily positive role models.”(Mentor Training Handbook, 2012)

“The mentor is usually a senior, experienced employee who serves as a role model, provides support, direction, and feedback to the younger employee regarding career plans and interpersonal development, and increases the visibility of the protégé to decision-makers in the organization who may influence career opportunities” (Noe, 1988, p. 458).

“[Mentoring is...] the long term passing on of support, guidance and advice. Also a form of apprenticeship whereby an inexperienced learner learns the tricks of the trade from an experienced colleague backed up as in modern apprenticeships by offsite training.”(The Chartered Institute of Professional Development - CIPD)

The ability of a leader is to take certain decisions, sometimes radicals, in order to achieve objectives. The leadership involves combining various issues such as determination, courage, charisma and ambition that a leader can proof. All these features are assigned easily to the mentor, both of representing the highest sphere of influence team members.

In the past, the leaders were those on higher positions whose decisions were irreversible and mandatory executed. Nowadays the idea of leadership is present at all hierarchical levels such as operational members that have the ability to prioritize tasks themselves, to take the best decisions for the process, without the intervention of a superior.

Although the responsibilities are different, the literature identified three types of leadership no matter the hierarchical level at which member do his activity.

Situated on top of the pyramid namely strategic leadership undertaken by the team leader-that is the one that elaborate techniques such as developing new visions, strengthening values in organization and strategic thinking.

The second one is the team leadership includes tasks performed by mentor its main tasks are team trainings, orientation to people and positive influence on the mentality of the other members.

At the bottom of the pyramid are the employees themselves that can coordinate daily activities even without supervisor intervention.

## INTELLIGENCES - A NEW PERSPECTIVE IN MENTORING AND LEADERSHIP

Our approach on mentoring and leadership is related to one of the most popular theories is that of Howard Gardner (2011), who forward the hypothesis of the eight types of intelligence: musical and rhythmic intelligence, bodily-kinaesthetic intelligence, naturalist intelligence, interpersonal and intrapersonal intelligence, verbal-linguistic intelligence, logical-mathematical and spatial-visual intelligence. These intelligences are autonomous and allow the individual to assume different roles that lead to different ways of knowing the reality. To understand and measure how people differ in terms of mental ability, researchers designed intelligence tests, which measure samples consisting of mathematical logic, spatial ability, understanding correlation, and other constituent elements of intelligence.

No.	Type of intelligence	Main feature	Type of leader
1	Physical intelligence (PQ)	The ability to do	Authoritarian
2	Intellectual intelligence (IQ)	The ability to learn and think	Authoritarian
3	Emotional intelligence (EQ)	The ability to communicate	Charismatic/transformational/participative
4	Spiritual intelligence (SQ)	The competence to give	Spiritual

Table 1 – Intelligence and leadership according to Nita, 2012

Most often in an organization we identify a manager and an informal leader (Bargal, 2000). The literature offers a variety of comparative analysis to differentiate the characteristics and attributes of a leader and a manager (Hyden, 1994; Hull and Ozeroff, 2004; Kossoff, 2008) Also it can be observed in a number of situations that the leader is a distinct person from the manager (formal or informal), or situations where the manager plays the role of a leader. (Gharehbaghi and McManus, 2003)

The main difference is that the leader has a power of decision, officially recognized, both his superiors (managers, directors) and also by the team; If one of the members made a mistake he must respond just in front of the leader and not to the mentor. Although the mentor and leader are equally popular and appreciated by the team, in employees mind is only a person that they must bring justifications - the leader.

The mentor although is a highly favourable element in a team he can have only an informal power of influence over the others colleagues. The mentor is regarded as a team member with operational role but through his experience, knowledge and relationship skills acquired to become an intermediary

between the leader and the team. The mentor existence is always beneficial because each action can be more easily implemented when more initiators and proponents of the same idea exist because the progress involves continuous improvement, not an isolated element.



Figure 1 – The manager-leader-mentor trinity (after Mihoreanu, Costea, 2016)

The UK government has recently identified the importance of mentoring to business growth.

Mentoring includes providing information [Mihoreanu, Costea, Stefanescu, 2016] and advice to individuals and facilitating their access to the people and resources they need in order to develop and progress.

Comparing mentor occupational standards, we noticed similar characteristics in competencies and skills such as: communicating, empathizing, empowering, evaluating, influencing, management information, inspiring, leading by example, learning, mentoring.

## CONCLUSIONS

The new pattern of behaviour should be seen as a symbiosis of manager-leader-mentor. Starting from occupational and professional standards in this field and in accordance with European Qualification Framework – EQF, we can design a new set of traits, adapted to the organizational culture of a business. In this case, European Qualifications Framework is an essential tool for developing a European employment market. The EQF is a tool based on learning outcomes rather than on the duration of studies. The main reference level descriptors are: skills; competences; knowledge. The most important principle of the EQF is the learning outcomes approach. The learning outcomes approach shifts focus to what knowledge, skills and competences the learner has acquired by the end of the learning process. These competencies can be obtained in a formal, informal or a non-formal way (Colardyn and Bjornavold, 2004).

The research represent a work in progress and future results related to specific skills and competencies for both mentor and leader are going to be integrated and correlated in order to provide a new behavioural pattern, adapted to society current needs.

The leader through his position and the mentor through recognition by the team, propose collective action and generate positive changes by increasing competence or founded motivation. The main common element between leader and mentor is based on a strong operational implementation but also on the emotional sphere.

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## FINANCIAL INSTRUMENTS IN THE OPERATION OF CONTEMPORARY ENTERPRISES

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### ABSTRACT

Financialization is a process of increasing role in financial sector in domestic economies as well as the global economy. This is “a form of accumulation, in which profit are made mostly through financial channel instead of production and trade” (Janc et. al 2015). The phenomenon of financialization is changing model of enterprises’ operation. The aim of the paper is to verify the hypothesis that as a result of changes taking place in the world economy, the share of financial instruments in assets and liabilities of enterprises is increasing. If the hypothesis is proven, the Author will examine whether the discussed tendency concerns all enterprises (small, medium and large one).

**Keywords:** *financialization, financial instruments, financial assets, liability*

### INTRODUCTION

The phenomenon of financialization, which has been present in the world economy for almost four decades, consists in excessive growth of the financial sector in relation to the real sphere, and its autonomization.

A consequence of transformations occurring in economy is a change in the conduct of entities operating on the market.

The aim of the paper is to verify the hypothesis that as a result of changes taking place in the world economy, the share of financial instruments in assets and liabilities of enterprises is increasing. If the hypothesis is proven, the Author will examine whether the discussed tendency pertains to all enterprises or only to large ones. Moreover, the Author will study the structure of financial assets and liabilities of enterprises in relation to the size of an entity.

The research methods used to accomplish these research objectives are: a critical analysis of literature on the subject, an analysis of empirical data and a deductive method.

## THE ESSENCE AND CONSEQUENCES OF FINANCIALIZATION

Even though the “financialization” neologism has been present in literature on the subject from the beginning of the 1990s, this term is still ambiguous. The contemporary view on this phenomenon has been shaped to a large extent by K. Phillips who in 1993 in “Boiling Point” and a year later in a chapter of “Financialization of America” defined it as a prolonged split between the divergent real and financial economies (Phillips, 1994).

A few years later, G. Krippner defined a financialization as a pattern of accumulation in which profits are made by financial channels instead of trade and production (Krippner, 2004). Gostomski goes one step further and describes this phenomenon as “the dominance of the financial sector over the real sector” (Gostomski, 2014).

However, one of the most famous and most frequently quoted definitions is authored by G. Epstein who described the financialization phenomenon as “the increasing role of financial motives, financial markets, financial actors and financial institutions in the operation of the domestic and international economies.” (Epstein (ed.), 2005). The author points to a growing influence of financial elites and financial markets on decisions of governments and economic entities at the domestic and international levels.

Some of researchers (Froud, Haslam, Johal and Williams, 2001) perceive financialization as a new stage of capitalism, called “rentier” capitalism, “coupon pool” or “cash in capitalism”. C. Lapavistas stresses that financialization is more than normal, systemic transformation of capitalism that occurred during the last four decades. Financialization as a systemic transformation manifests itself in three fundamental aspects (The era of financialization, 2014):

- financialization of commercial and production enterprises,
- financialization of households,
- transformation of banks – from taking deposits and giving loans to focusing on transacting in open markets.

As a summary we can use the definition created by P. Marszałek, who describes financialization as: (Marszałek, 2012; Janc et al., 2015)

- dissemination and quick development of financial markets,
- deregulation of financial systems and particular economies,
- extension of the range of available financial instruments and institutions,
- decisions in the sphere of social and economic policy, conducive to development of financial markets,
- increase in consumption facilitated by loans,



- popularity and growing significance of financial institutions, markets, instruments and schemes in the economic and social life,
- formation of a specific (individual, market-oriented and utilitarian) financial culture.

Effects of the financialization phenomenon can also be noticed at the microeconomic level. First of all it has changed the way to measure the performance of company from the net profit to earnings per share. The change is visible also in the sphere of ownership and management, especially in the case of large economic entities. Increasingly, holders of enterprise ownership rights are institutional proprietors from the financial sphere who are not interested in sustainable growth of an entity which generates substantial revenue only after certain time, but in large profits earned in a short period. They treat their participation in the real sphere as one of alternative ways of investing financial means and reaping profits. Commercial and production enterprises have a lot of money capital, but they don't invest it in new, modern fixed assets but they use it for making financial profit. Finance has become a mechanism for the extraordinary growth of profit for enterprises.

This attitude is reflected in enterprise management where a shift has occurred from the perspective of stakeholders towards the perspective of shareholders or stockholders. Harris and Raviv wonder if a control over corporate decision by shareholders should be increased. On the one hand it is needed to reduce the agency problems associated with management decisions. But on the other hand it would have a negative impact on the enterprises because in general shareholders have less information about company and its environment. They also don't have a knowledge of management so their decisions could be wrong.

The management staff of enterprises, evaluated by owners of business entities from the perspective of profits made and resultant dividends paid, also looks for the ways to quickly generate extraordinary profits. In this situation corporate objectives and objectives of managers are different. To achieve goals alignment managers can be compensated with stock options. Unfortunately this leads to focusing on rising prices of shares instead of long-term growth of an enterprise as less money is spent on research and development( ). A good solution to this problem may be contractual protection of managers such as severance pay agreements. According to Xia Chen and Qiang Cheng (2015) CEO contractual protection have positive impact on innovation. They revealed that the longer duration and larger monetary strength of the agreement result in less tendency to reduce expenditure on R&D by the CEO.

## THE NOTION AND TYPES OF FINANCIAL INSTRUMENTS

In the Polish language, the word “instrument” means a way, a method of operation, a means to achieve a specific goal.<sup>1</sup> The term “financial” signifies that an instrument is used to obtain a specified and expected economic result.

The notion of a financial instrument is defined in Article 3 section 1 item 23 of the Accounting Act. According to its provisions, a financial instrument should be understood as a contract that gives rise to a financial asset of one party and a financial liability or equity instrument of another party on condition that the contract concluded between two or more parties obviously brings about economic consequences, irrespective of the fact whether execution of rights or obligations resulting from the contract has an unconditional or conditional character. (The Act of 29 September 1994). On the other hand, M. Wypych (2001) defines a financial instrument as “a financial claim (or obligation) of one business entity towards another or as a contract between two entities, regulating their financial relationship.”

Financial instruments functioning on the market differ in terms of their structure, character of an obligation, manner of execution, autonomous operation, type of the market or underlying instrument. However, literature on the subject most frequently provides the following division of financial instruments: (Garstecki and Kamela-Sowińska, 2014)

- primary financial instruments – these are assets and liabilities which generate financial rights and obligations in the amount which is specified or possible to specify. This group comprises instruments of uncomplicated structure and high liquidity. Examples of underlying instruments are standard purchase-sale contracts, loan agreements, issue of shares and debt securities (Krzywda, 2005).
- Derivative instruments, called financial derivatives – these are instruments whose value is derived from value of underlying instruments which can be: interest rate, share price, exchange rate, value of commodities or stock market index (Mikita and Pełka, 2009). The essence of such instruments is transfer of risk connected with an underlying instrument between the parties of a contract concerning a given derivative instrument. This group of instruments comprises options, contracts and swaps.
- Compound financial instruments – a contract based on an equity instrument and a financial obligation or an obligation of another character (Rozporządzenie Ministra Finansów, 2008). This group of instruments includes: convertible bonds and callable bonds.

Financial instruments form two kinds of financial flows. An inflow of financial resources is registered in an entity's balance sheet among assets. On the other hand, liabilities containing financial

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<sup>1</sup> Słownik języka polskiego, Wydawnictwo Naukowe PWN,  
Innovation, Entrepreneurship and Digital Ecosystems

instruments which are an entity's financial obligations form an outflow. Appropriate synchronization of both these flows enables an enterprise to stabilize financial liquidity and maintain it at a satisfactory level, and in consequence to continuously implement planned economic processes.

Furthermore, financial instruments are important for an enterprise also from the point of view of its solvency. Since they are resources of a high liquidity level, they protect an entity against its loss. Moreover, they are a source of financial revenue and expenditure for an entity, even though their amount and date of reception/payment depends on the type of a given instrument.

Enterprises can obtain financial assets for a short or a long term. Such financial assets as: stock or shares, securities, loans granted and others should be classified as short-term if they are payable and due or allocated for disposal within 12 months from the balance sheet date or from the date of their establishment, issue or purchase (The Accounting Act, Article 3 section 1 item 18). Hence, all financial assets held by an entity for over a year from the balance sheet date or from the date of their establishment, issue or purchase ought to be treated as long-term.

It can be reflected here that if enterprises made long-term investment of their monetary surplus on the capital market, the banking sector would lose deposits which constitute the foundation of their basic credit activity.

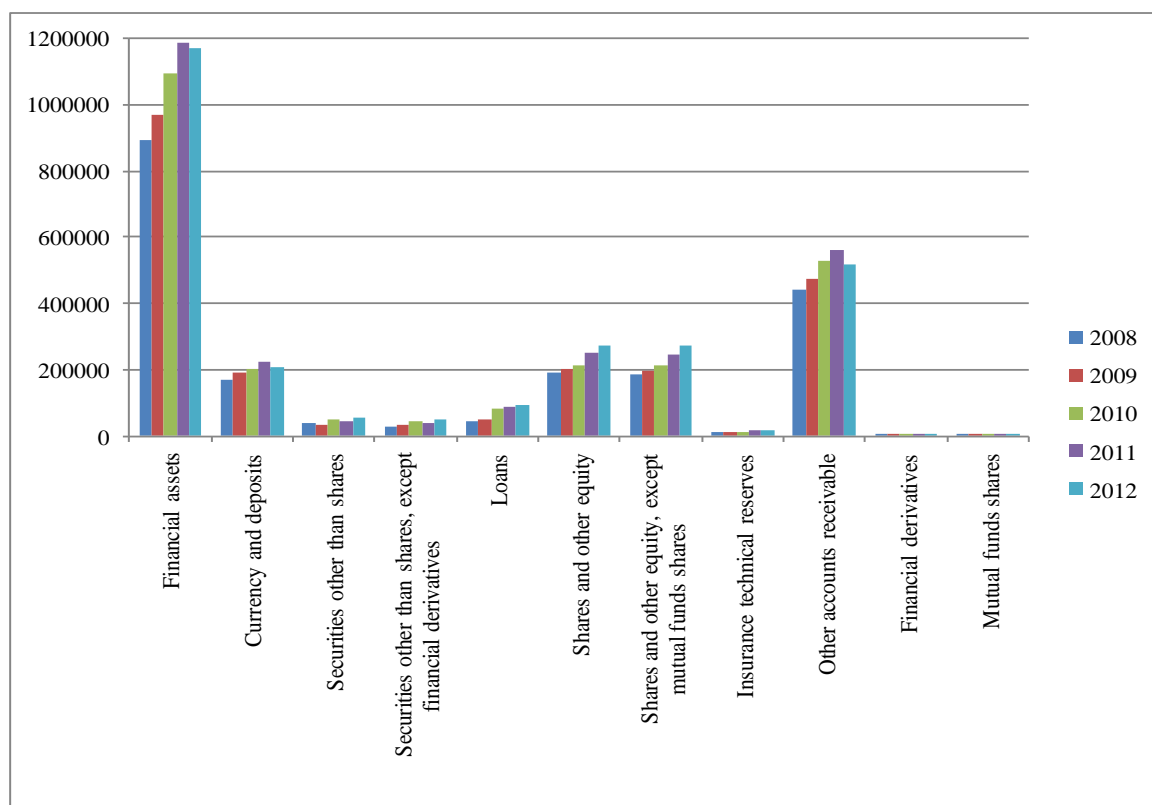


Figure 1. Structure of financial assets of Polish non-financial corporations in 2008-2012 (Zloty, millions).

Source: Own work based on OECD data.

## FINANCIAL INSTRUMENTS IN THE OPERATION OF CONTEMPORARY ENTERPRISES IN THE EMPIRICAL ASPECT

The analysis in this chapter drew attention to value and structure of financial assets of non-financial corporations in Poland. The data comes from OECD Statistics. The period available is from 2008 to 2012.

Figure no 1 presents the structure of financial assets of polish non-financial corporations.

In 2008-2011 the value of financial assets was systematically growing from almost 895 billion in 2008 to over 1,187 billion in 2011. In the following year it decreased slightly to 1,170.5 billion. In 2012 the highest value had "other accounts receivable". The following were: shares and other equity and currency and deposits. Securities other than shares had the lowest share in all assets.

Most of assets of the non-financial corporation were other equity and unquoted shares. (Figure 2)

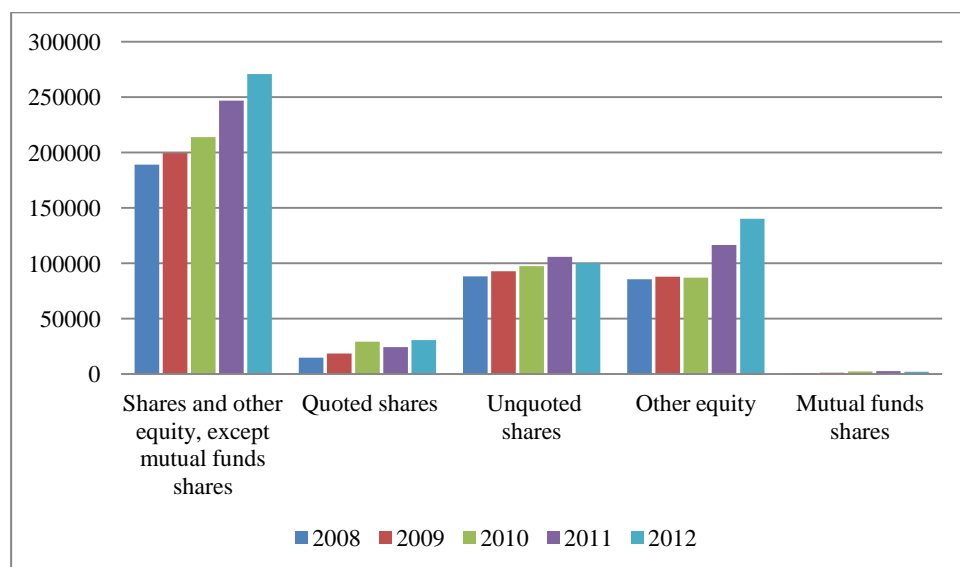


Figure 2. Structure of shares and other equity of non-financial corporation in Poland in 2008-2012 (Zloty, millions).

Source: Own work based on OECD data.

The assets of the highest liquidity were dominated by transferable deposit and other deposits. (Figure 3). The value of currency in companies is getting less and less.

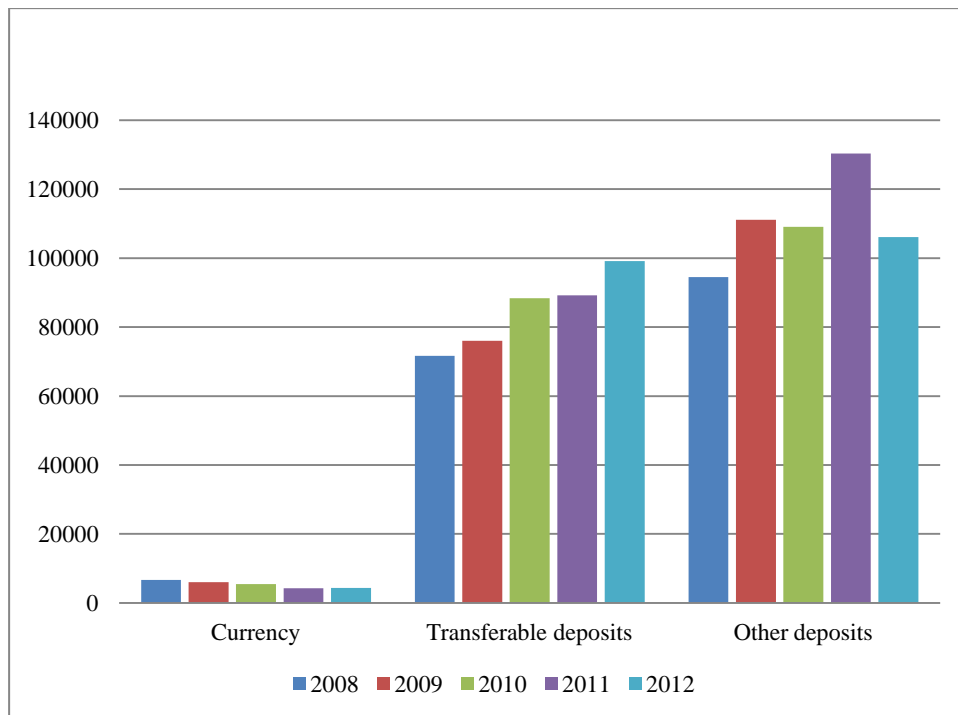


Figure 3. Structure of currency and deposit of non- financial corporations in Poland in 2008-2012.

Source: Own work based on OECD data.

When analyzing securities other than shares of these entities it must be observed that the highest value had long-term securities, and the lowest the financial derivatives (Figure 4).

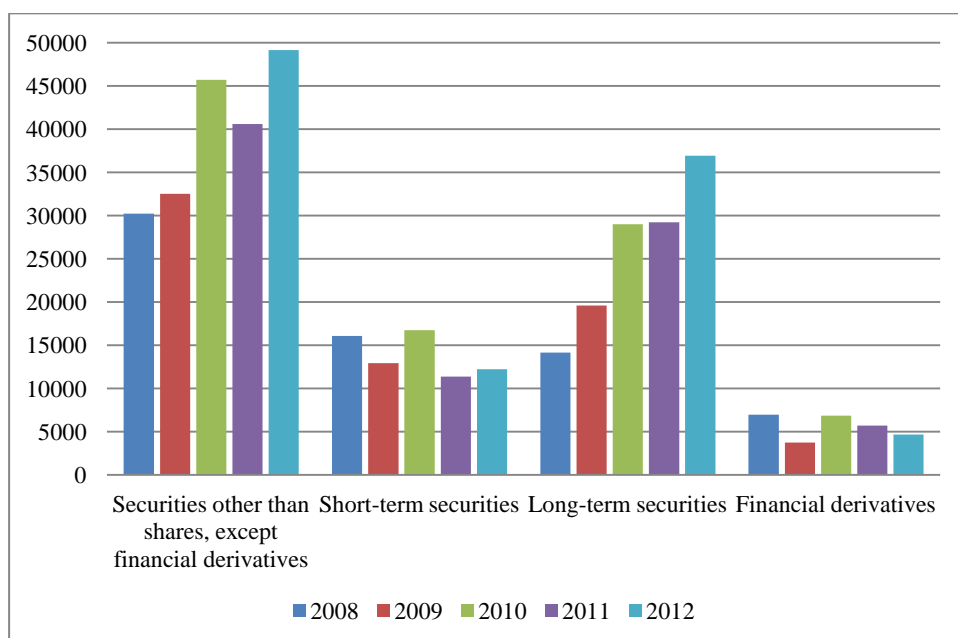


Figure 4. Structure of securities other than shares of non-financial corporations in Poland in 2008-2012.

Source: Own work based on OECD data.

The liabilities were dominated by share and other equity. The second as regards the value were loans and the lowest were securities other than shares (Figure 5).

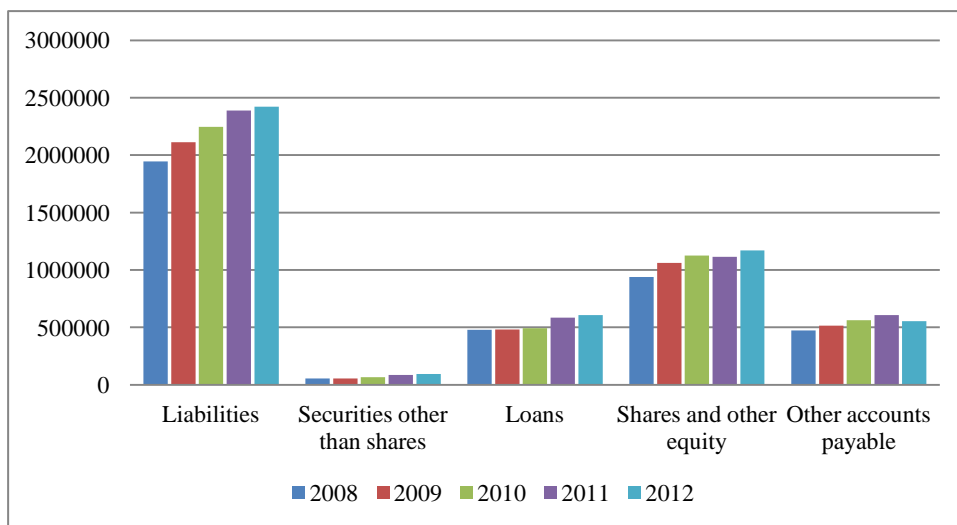


Figure 5. Liabilities of non-financial corporation in Poland in 2008-2012.

Source: Own work based on OECD data.

To confirm the hypothesis that the share of financial instrument in assets of enterprises is increasing, the author analyzed also financial results of economic entities in 2005-2015<sup>1</sup> based on GUS data.

The Author studied the value of financial revenues and financial costs of non-financial entities and their share in revenues and costs from their total activities. In 2005-2009 financial revenues were systematically increasing, but in 2010 this tendency was interrupted and revenues fell by almost 8 billion Zloty (Figure 6).

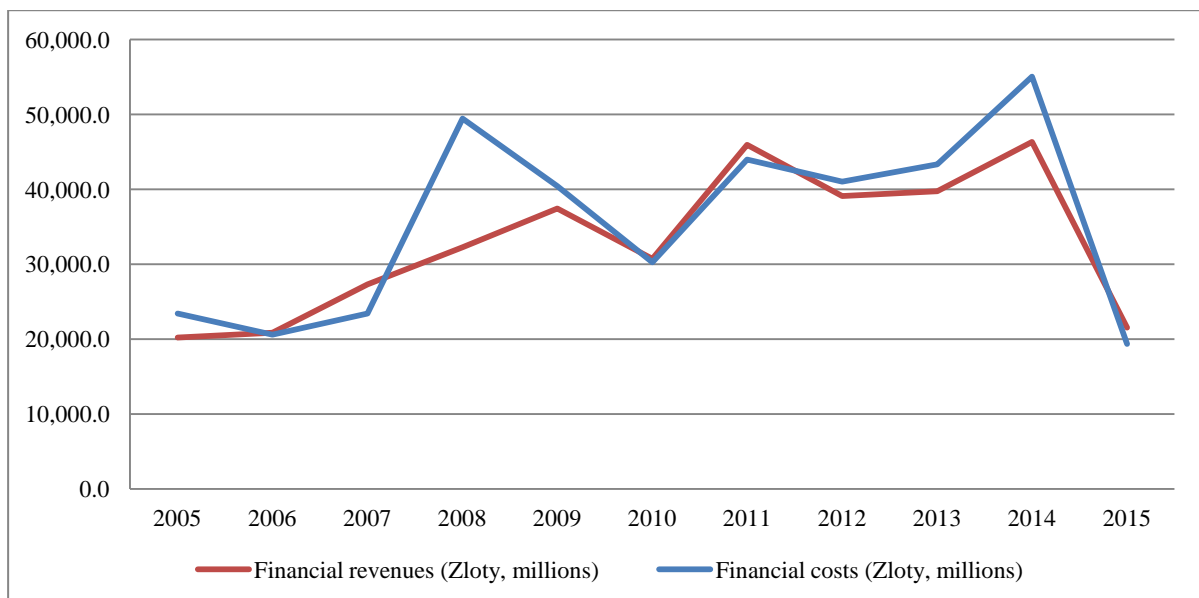


Figure 6. Financial revenues and financial costs of non-financial enterprises in Poland in 2005-2015.

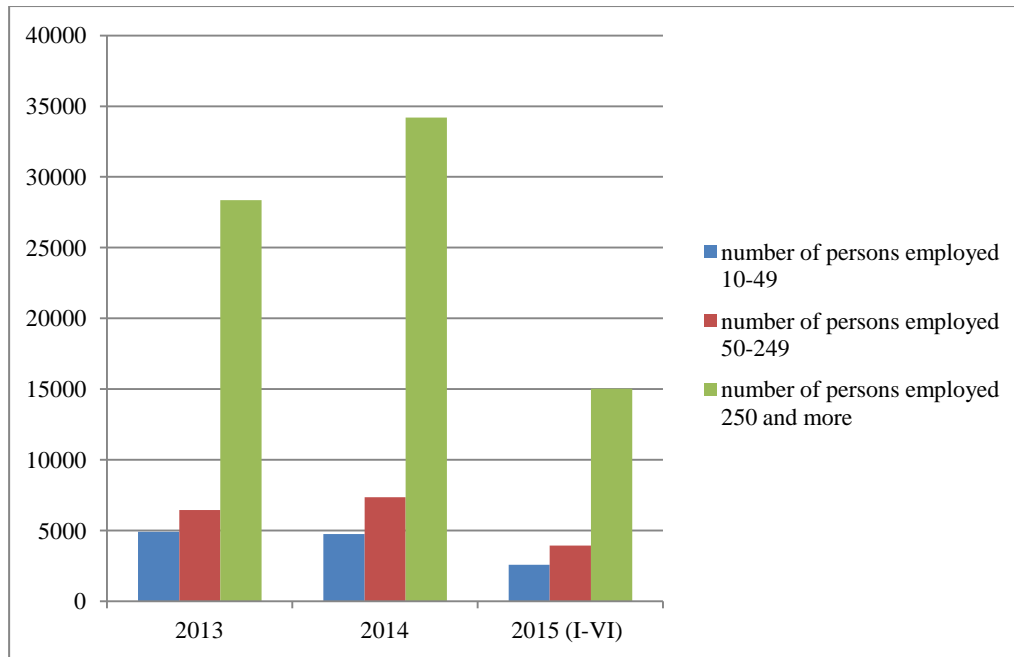
Source: Own work based on GUS (2005-2016), "Financial results of economic entities in 2005-2015", GUS,

<sup>1</sup> The data presented for 2015 include only first half of the year (January-June).

*Warsaw.*

The similar situation was with financial costs, which were growing from 2005 to 2008, felt in 2009 and from 2010 to now are increasing. The main reason for this is global financial crisis which started in the middle of 2008 and its consequence – economic slow-down.

Looking at financial revenues in regard to sizes of enterprises it must be observed that the larger the company is, the greater the value of financial revenue it has (Figure 7).



*Figure 7. Value of financial revenues in regard to sizes of enterprises.*

*Source: Own work based on GUS (2004-2016), "Financial results of economic entities in 2013-2015", GUS, Warsaw.*

Usually the larger the company is, the higher the surplus funds it can invest in financial instruments. The share of financial revenues in revenues from total activities in 2013-2015 increased slightly. The largest increase was recorded in large entities. (Figure 8)

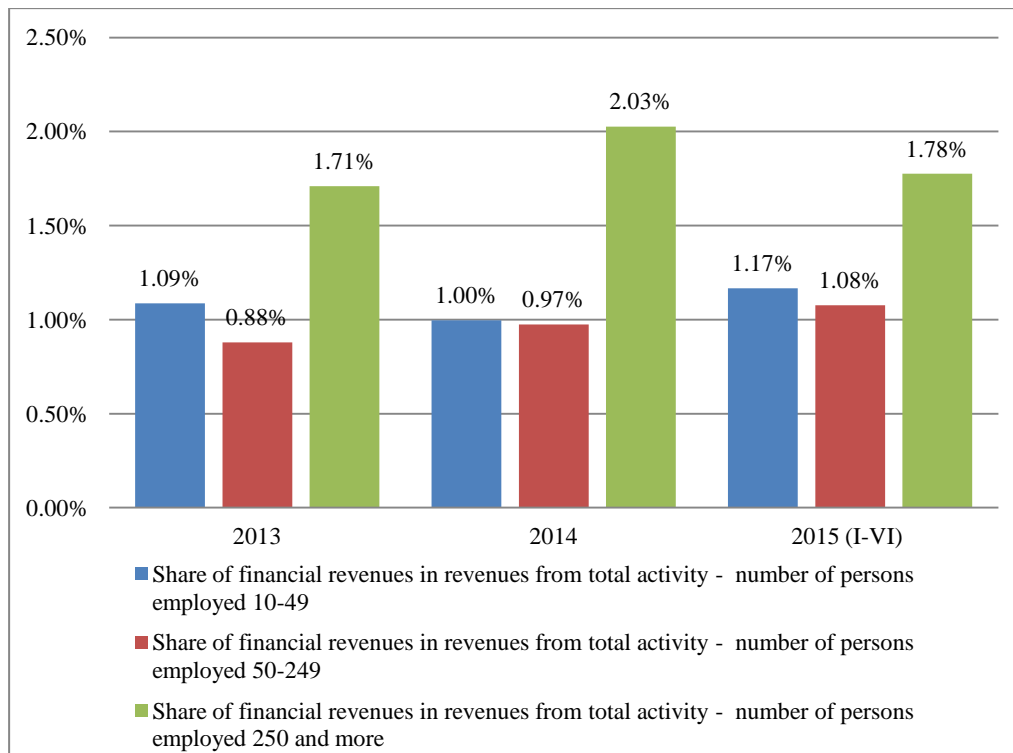


Figure 8. The share of financial revenues in revenues from total activities in non-financial enterprises in 2013-2015.

Source: Own work based on GUS (2004-2016), "Financial results of economic entities in 2013-2015", GUS, Warsaw.

The investment activity of small and medium enterprises is similar as the largest entities. They mostly buy equity capital instruments or share. Most seldom they buy investment certificates and embedded derivatives and hedging. (Figure 9)



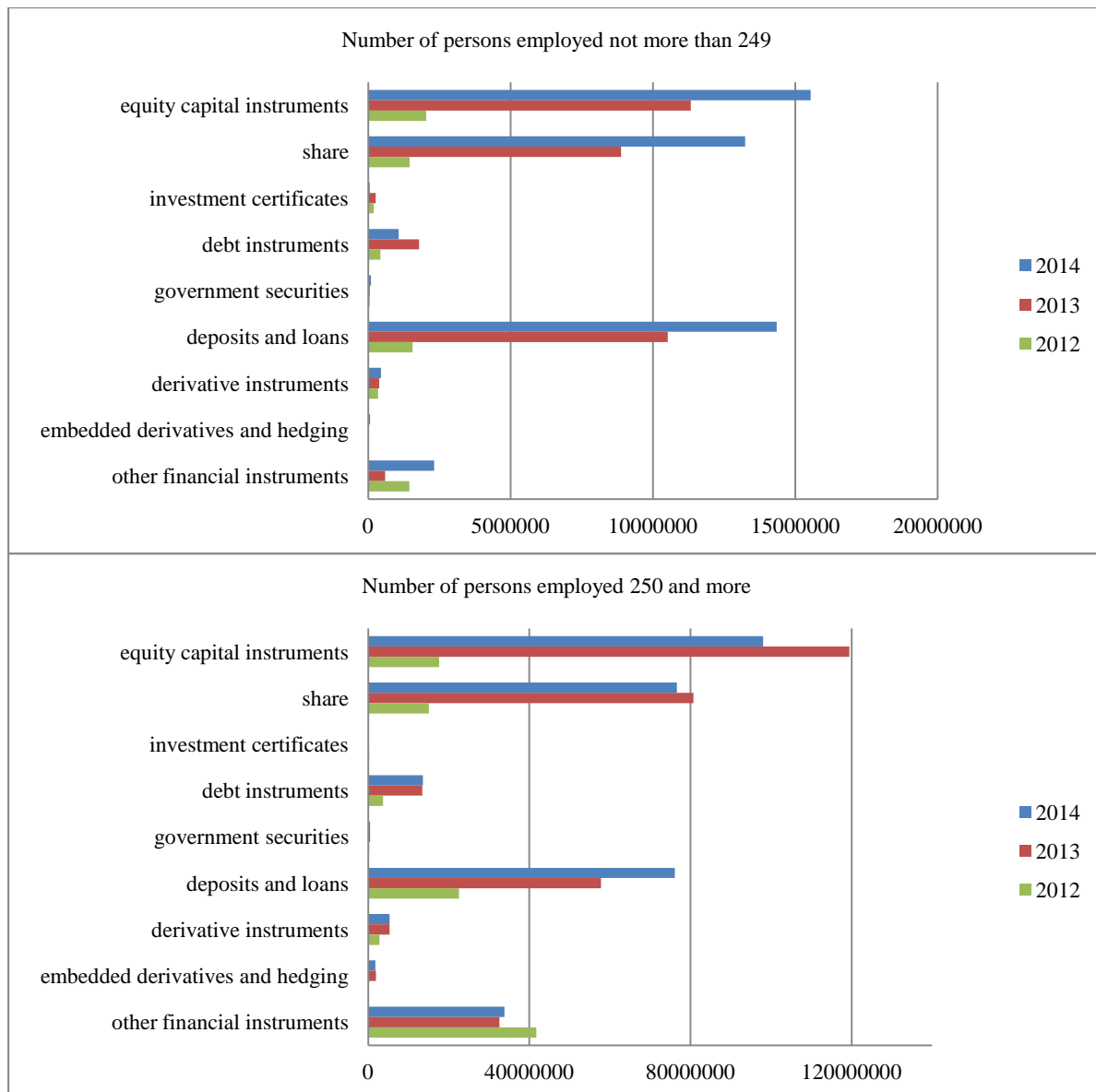


Figure 9. The share investment activity of economic entities in 2013-2015.

Source: Own work based on GUS (2004-2016), "Financial results of economic entities in 2013-2015", GUS, Warsaw.

## SUMMARY

The developing phenomenon of financialization clearly transforms the model of enterprises' operation. The shift from the perspective of stakeholders towards shareholders shortened the time horizon for decisions taken in an entity. In pursuit of quick and extraordinary high profits, management boards of enterprises invest in financial instruments more and more frequently. On the basis of the research conducted, the Author has confirmed the hypothesis put forward at the beginning that the value of financial assets of enterprises increases year by year.

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# THE INFLUENCE OF CHOSEN CHARACTERISTICS OF SOCIAL STATUS ON CONSUMER'S PERCEPTIONS OF DESTINATION QUALITY FACTORS

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## ABSTRACT

The article deals with the issues of the destination quality. The significant factors were designed based on the contemporary theories and on the qualitative research. The importance of quality aspects related to travel tourism were identified and assessed for the Czech population. The paper presents a statistical evaluation of the significance of the destination quality factors with emphasis on dependency especially for categories related to the education and the occupation. The results can be used by destination managers to design communication strategies for different segments of consumers for individual destinations to improve their competitiveness.

**Keywords:** *travel tourism; destination quality; quality factors; consumer's perception; social aspects*

## INTRODUCTION

The income from travel tourism represents a significant part of the total income of both developed and less developed economies in the world despite the current difficult situation. However, the positive balance of tourism due to the rising costs of Czech residents abroad declines. Even though, the Czech Republic ranks among the two thirds of the European Union countries where tourism revenues exceed expenditures. In recent years, the share of tourism in GDP in the Czech Republic is just under 3%. This is similar to the value of GDP for Sweden, the Netherlands, and Germany in the time before the immigration crisis. But tourism is not only important from macroeconomic view, but also from microeconomic perspective. Very important from a social point of view is employment in services. The share of tourism in total employment is slightly above 4.5% and the total number of people employed in tourism of about 230,000 people – approximately 80% of employees and 20% of entrepreneurs. In this environment, it is necessary to maintain high level of competitiveness and results from marketing

research could help to increase a quality of offered services in the field of tourism. The research discussed in this article relates to the perception of quality destination factors by visitors.

## MATERIAL AND METHODS

The aim of this study is to determine whether there are statistically significant differences in the perceived quality of the destination for different groups of consumers; groups with different social status. Status defines the rights and responsibilities of individual in relation to other individuals and it is also forming expectations that other people can require from the holder status in certain situations. The relationship between different social statuses is defined by social roles. The education and occupation is usually thought as the major determinant of social status in modern societies. Another term that is used is socioeconomic status, based on income, education, and occupation. For a person's overall standing within a social stratification system is also important gender, age, and location/address; mentioned in the article as well. Further important determinants are the religion, social and cultural capital, material possibilities, and administrative ascription. This research is primarily focused on the influence of education and the position, that is characterized by the four categories – student, employee, employer, and old-age pensioner, so more focused on status obtained by the own efforts rather than the innate status, albeit category students and pensioners are closely related to the innate status. Education and occupation are the basic characteristics of the demographic aspects consumers when creating segmentation strategies used for travel tourism marketing activities. In the literature, there are several definitions of destination quality, which vary considerably. Ryglova *et al.* (2015) states that the definition of destinations quality is also difficult because of the differences between the perception of visitors and residents, and also due to the complexity of the environment. Vajcnerova and Andrasko (2013) have found also many differences between the destination quality evaluations done by the experts from travel industry and by the residents, at least for the Czech Republic. World Tourism Organization has designed six standards for tourist product or service that have to be put into consideration when destination managers are making decision related to tourism and marketing. These standards could be summarized as follows: safety and security, hygiene, accessibility, transparency, authenticity, and harmony. According Buhalis (2003) the most important components of destinations are attraction, amenities, ancillary services, accessibility, available packet, and activities. Middleton and Clarke (2001) in addition to attraction, amenities, and accessibility see as the most important components moreover: image, perception of the destination and also price. Eraqi (2006) writes that the quality should be implemented through a comprehensive system under the condition of consistency and harmony for the quality system components or its subsystems.

The factors used in the survey were designed also on the base of the theoretical and scientific research and models (SERVQUAL, GAP, Kano, EFQM) related to quality destination (Buhalis, 2003; Middleton and Clarke, 2001; Woods and Deegan, 2003; Grönroos, 2007) and on own previous qualitative and quantitative research. During May-August 2015, a total of 1,097 respondents, determined the importance of 19 factors. The quota sampling has been used, based on population characteristics published by the Czech Statistical Office for the year 2014. Kruskal-Wallis test has been used for determination dependency resulting from each ranking factors by the respondent classification. We determine whether the evaluation of significance of observed factors is dependent on education or occupation/employment. One-way analysis of variance cannot be used because of non-normality of data; therefore, non-parametric test was used. With regards to the individual groups of Czech consumers and their perception of destination quality were determined following main hypotheses:

With the achievement of a higher degree of education there is an increasing need for information.

The group of students prefers active experiences in comparison with other groups.

For a group of employers are important factors associated with the business.

For a group of the pensioner are important factors as the cost and safety.

Number of factor	Factor	Mean	Median	Std. dev.	KW-test EDUC.	KW-test EMPL.
F14	Sense of security	4.32	5.00	0.97	NO	YES+
F15	Destination cleanliness	4.28	5.00	0.91	NO	YES+
F1	Natural attractions	4.04	4.00	1.09	YES+	NO
F12	Level of prices of services and goods in the destination	3.97	4.00	0.99	NO	YES+
F13	Level of personnel quality in tourism services	3.91	4.00	1.00	NO	YES+
F3	Accommodation	3.85	4.00	1.04	NO	YES+
F4	Food	3.83	4.00	1.04	NO	YES+
F6	Availability of transportation to the destination	3.79	4.00	1.12	NO	YES+
F2	Cultural monument	3.71	4.00	1.13	NO	YES+
F10	Friendly acceptance by the locals	3.65	4.00	1.12	NO	NO
F16	Overcrowding of the destination	3.60	4.00	1.10	YES	NO
F9	Information and communication prior to arrival	3.59	4.00	1.11	NO	YES
F8	Availability and quality of information	3.47	4.00	1.14	NO	YES+
F17	Uniqueness of destination	3.41	3.00	1.05	YES+	YES+
F11	Image of the place	3.35	3.00	1.09	YES+	NO
F5	Social and experiential events	3.21	3.00	1.19	YES+	YES+
F19	Respecting sustainable development of the destination	3.17	3.00	1.11	YES	NO
F18	Additional infrastructure	3.04	3.00	1.16	YES+	YES+
F7	Local transportation	2.98	3.00	1.23	NO	YES+

Table 1. *The significance of the destination quality factors perceived by consumers*

## RESULTS AND DISCUSSION

The following Table 1 states the order of the quality factors according to their significance perceived by the visitor of the destination when evaluating the overall destination tourism quality. Significance was set based on the average evaluation values of respondents of examined sample (n = 1097).

The Table 1 shows the sequence number of examined factors quality, how they were perceived by their importance by the respondents. All factors are evaluated comparatively high at the 5-point scale. The most significant factors also show a lower standard deviation. At the top there are factors, where the median is equal to the maximum value – the factor *Sense of security* that represents security issues of the destination, which includes not only local security situation but also security in form of health risks (e.g. infectious diseases, drinking water, health system), safe natural conditions (e.g. earthquakes, floods), crime rate etc. The factor *Destination cleanliness* represents clean natural environment (water for swimming, air, way of dealing with local waste, cleanliness of public places, urban cleanliness etc.). The last factors, the least three significant, are factors *Respect to sustainable development of the destination*, *Additional infrastructure*, and *Local transportation*.

Kruskal-Wallis test verifies the null hypothesis, where the assumption of a factor under examination for all groups has the same distribution. The monitored variable (importance of factor) is at the ordinal level. Rejection of this hypothesis implies that the differences are statistically significant; there is the dependence of an examined factor on the segmentation issue – education or employment. The level of significance for a test was chosen 5% and 10%. YES+ means that the dependence was demonstrated at the 5% level, YES means that the dependence is significant only at 10% significance level, and NO indicates that dependence has not been proven. The only factor, at 10<sup>th</sup> place in the sequence, *Friendly acceptance by the locals* is the same as for education and employment/job, in respect to dependence, NO in both cases. It's value is relatively high for both tested groups – average 3.65 and median 4. The dependence on gender was proven at a 5% significance level in 11 factors out of 19 (F2, F3, F5, F6, F7, F9, F10, F11, F12, F13, F14, F15) and dependence on age was proven at a 5% significance level in 16 factors out of 19 (F2, F3, F4, F5, F6, F7, F8, F9, F10, F12, F13, F14, F15, F16, F17, F18) – as described in detail in Ryglova *et al.* (2015). As regards to location, place of residence monitored in the countryside or in the city, there is dependence found at 5% significance level in two factors *Overcrowding of the destination* and *Uniqueness of destination*. The dependence found at 10% significance level in next four factors *Accommodation*, *Image of the place*, *Social and experiential events*, and *Local transportation*.

The average values of surveyed quality factors for each group of education and employment are described in Table No. 2 and 3. For factors with statistically significant differences between the groups, the group that reached the highest average rating is highlighted.

Number of factor	Factor	Mean PRIMARY	Mean SECOND.	Mean HIGHER	Symbol of dependence
F14	Sense of security	4.21	4.31	4.35	↗
F15	Destination cleanliness	4.26	4.30	4.24	
F1	Natural attractions	3.49	4.01	4.15	
F12	Level of prices of services and goods in the destination	4.12	3.99	3.93	
F13	Level of personnel quality in tourism services	3.67	3.92	3.93	
F3	Accommodation	3.93	3.84	3.86	
F4	Food	3.91	3.84	3.81	
F6	Availability of transportation to the destination	4.02	3.79	3.77	
F2	Cultural monument	3.77	3.66	3.80	
F10	Friendly acceptance by the locals	3.42	3.69	3.60	
F16	Overcrowding of the destination	3.47	3.65	3.53	↘
F9	Information and communication prior to arrival	3.28	3.58	3.65	
F8	Availability and quality of information	3.53	3.49	3.42	
F17	Uniqueness of destination	2.72	3.37	3.56	↗
F11	Image of the place	3.00	3.37	3.35	↘
F5	Social and experiential events	2.56	3.24	3.22	↘
F19	Respecting sustainable development of the destination	2.72	3.16	3.25	↗
F18	Additional infrastructure	2.40	3.07	3.06	↘
F7	Local transportation	3.14	2.97	2.99	

Table 2. *The significance of the destination quality factors – the dependency on the level of education*

There are results of the test dependence of the individual factors related to education in the Table 2. The last column shows the symbol of dependence – only for factors for which the dependence is statistically conclusive. The significance of factor increases with a higher education only for three factors – *Natural attractions*, *Uniqueness of destination*, and *Respecting sustainable development of the destination*. However, other three factors *Image of the place*, *Social and experiential events*, and *Additional infrastructure*, for graduates of high school or university are almost identical. Significant difference is only lower rating for the category of elementary education. An interesting result is also the evaluation of the factor *Overcrowding destination*. This is the most important factor for respondents with secondary education.

Category "Occupation" is divided into four groups. Factors *Social and experiential events* and *Uniqueness of destination* are maximally rated by students, which confirms the results that this is related to younger age – the highest mean 3.45 for the first factor F5 evaluated by 18 - 23 years old respondents to compare all age groups, second – the highest mean 3.66 for the second factor F17 evaluated by 24 - 30 years old respondents to compare all age groups. The factors those are the most important for the old-age rentiers are related to the price, the availability of transportation, services and information, especially to a sense of security in the area, and also to cultural monuments. It is evident that the importance of these factors is related to age as well. Further group of factors – related to the level of

quality of tourism services as *Destination cleanliness, Level of personnel quality in tourism services, Accommodation, Food* – is important for a group of entrepreneurs. This is apparently related to their attitudes to business. However it must be noted that in this group of factors is not significantly different assessment also for groups of employees.

Number of factor	Factor	Mean STUDENT	Mean EMPLOYEE	Mean SELF-EMPLOYED	Mean SENIOR
F14	Sense of security	4.11	4.34	4.42	4.49
F15	Destination cleanliness	4.07	4.28	4.46	4.42
F1	Natural attractions	4.04	4.10	3.97	3.93
F12	Level of prices of services and goods in the destination	3.89	3.94	3.95	4.16
F13	Level of personnel quality in tourism services	3.71	3.96	4.11	3.90
F3	Accommodation	3.58	3.91	4.03	3.90
F4	Food	3.56	3.88	4.02	3.91
F6	Availability of transportation to the destination	3.50	3.75	3.81	4.24
F2	Cultural monument	3.58	3.63	3.70	4.15
F10	Friendly acceptance by the locals	3.66	3.67	3.51	3.65
F16	Overcrowding of the destination	3.61	3.53	3.68	3.70
F9	Information and communication prior to arrival	3.47	3.64	3.71	3.54
F8	Availability and quality of information	3.07	3.45	3.64	3.90
F17	Uniqueness of destination	3.57	3.44	3.50	3.08
F11	Image of the place	3.34	3.38	3.30	3.25
F5	Social and experiential events	3.37	3.17	3.35	3.02
F19	Respecting sustainable development of the destination	3.15	3.18	3.30	3.11
F18	Additional infrastructure	3.19	3.14	3.27	2.44
F7	Local transportation	2.86	2.84	2.82	3.61

Table 3. *The significance of the destination quality factors – the dependency related to employment/job*

The results found in the category of "student" and "senior" certify results published in a previous study (Ryglova *et al.*, 2015), which dealt with quality destination factors with respect to age. As Kandampully (2000) has stressed, quality will be the main driving force as tourism firms strive to meet the competitive challenges of the future. And according Atilgan, E. *et al.* (2003) among the service industries, tourism is especially significant in terms of its sensitivity to quality issue. For these reasons, it is obvious that the results of this research may help to specify the marketing activities for different customer groups. The present time is an instant time. Speed communication is required; therefore the message has to be short. Consumers do not like to read (or listen) long texts. Customers are oversaturated by advertising messages constantly attacking them from all sides, their ability to perceive is that reduced most of the day. Often, first sentence, first line, the first word is critical. Therefore organizations in tourism focused on students should emphasize in their messages in advertising, public relation, direct marketing etc. factors F17, F5, and organization focused on seniors, then F14, F16. Companies constantly collect data on their clients (eg. evaluation of completed tours)



and on potential future clients (eg. trade fair tickets lottery) and on the basis of creating targeted offers – for higher educated consumers is therefore more important to emphasize environmental issues in direct marketing activities. Also “persona” as the epitome of the segment is increasingly used for marketing strategy design. The main characteristics of this representative include education and occupation, so results of this research could help to marketing managers.

## CONCLUSION

Today, there are significant changes associated with climate change, political conflicts, terrorist threats, and migration crises affecting not only travel tourism. Despite these uncontrollable threats, entrepreneurs in tourism must strive to improve their offers. The entrepreneurs try to identify the reasons for consumers’ behavior to be more competitive within the framework of controllable factors. From 19 highly rated factors, *Sense of security*, *Destination cleanliness*, and *Natural attractions* are the most important factors for respondents.

Defined hypotheses were confirmed by Kruskal-Wallis test. The results could help destination managers to improve their marketing strategy. Acknowledgements – the results presented in this paper are part of the project No. 15-21179S „The Quality Evaluation of Tourism Destination “, which is conducted with support of Grant Agency of the Czech Republic.

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## INTERNET USAGE AND MOBILE OWNERSHIP: THE DIRECTION OF CAUSALITY

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### ABSTRACT

This study examines the causal relationship between Internet usage and mobile ownership using Thai macroeconomic data. A series of bivariate Vector Autoregressive (VAR) models are estimated. Granger causality tests are conducted to determine the direction of causality. Results show that mobile ownership 'Granger cause's Internet usage for consumers aged 6-10, 15-19, and over 60 years old segments. Conversely, the null hypotheses that Internet usage does not 'Granger cause' mobile ownership cannot be rejected for any age segment. Empirical findings imply that governments should initially focus on making mobiles accessible by their citizens, rather than enticing them to use more Internet by emphasizing its benefits. Age remains a significant determinant of technology adoption decision.

**Keywords:** *Internet Usage; Mobile Ownership; Granger causality; Vector Autoregressive Models*

### INTRODUCTION

The rapid growth of Internet usage has been documented virtually in all nations. Although less than 1 percent of the world population has access to the Internet in 1995, this figure has reached approximately 40 percent today (Internet Live Stats, 2016). The most apparent benefit of the Internet is its ability to eradicate any geographical boundaries among global citizens. For businesses, consumers' adoption of Internet allows firms to reach a larger audience via electronic channels both in terms of communication and sales. Interestingly, these benefits extend beyond nations where economy is already fully developed (Robey, Gupta and Rodriguez-Diaz, 1990; UNCTAD, 2001). Statista (2016) estimates that B2C e-commerce sales worldwide account for 1.7 trillion U.S. dollars in 2015 and is expected to increase to over 2.4 trillion U.S. dollars in 2018. In 2016, it is forecasted that 19 percent of smart phone users in the United States will transact with their phones at the point of sale, which implies an approximate 61 percent year-over-year increase (Frederick, 2016). Globally, more than 1 billion consumers have purchased products or goods online via desktop, mobile, tablet, or other devices (Statista, 2014).

It is, therefore, inarguable that Internet is one of the key drivers to nation's economic growth. Chile, as an example, announced a national broadband strategy which signifies its vision that ICT is a priority

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for economic development. Other countries, with similar vision, set targets and goals for promoting Internet usage. While Brazil aims to provide access to broadband for 50 of every 100 households, Malaysia's goal is broadband penetration rate of 75 percent in 2010 (World Bank Group, 2016). Consequently, governments employ various measures in order to improve their citizens' access to the Internet. For instance, over 13,000 miles of publicly-owned digital infrastructure, worth over 1.5 billion pounds, has been constructed in the United Kingdom (Curtis, 2015). However, Korean government adopts a more integrated approach: manufacturing promotion, user awareness, and digital literacy (World Bank Group, 2016).

Though developed countries may have a larger pool of resources to expend on promoting Internet usage, less fortunate nations are forced to focus their efforts. Findings of extant researches posit that governments should emphasize to its citizens the benefits of the Internet (Chen, Gillenson, and Sherrel, 2002; Teo, Lim, and Lai, 1999; Wang *et al.*, 2003). This is supported by the finding of Teo, Lim, and Lai (1999) where participants extensively use the Internet mainly because they perceive that the Internet is useful to their tasks. Within the framework of Technology Acceptance Model (TAM), perceived usefulness is commonly used to explain individual's decision to adopt a technology such as the Internet. Perceived usefulness is the degree to which an individual believes that using the technology can improve his/her performance (Saade and Bahli, 2005).

On the contrary, governments could also bolster Internet usage by facilitating easier access to the Internet. This concept is based on the fact that ease of use is also found to be a key determinant for Internet usage based on the Technology Acceptance Model (TAM). Specifically, perceived ease of use is the extent to which a person believes that using a technology is free of effort (Davis, 1989). Despite the public effort to construct infrastructure to extend the reach of the Internet to rural areas, making mobiles affordable to citizens could prove to be a fruitful alternative. A recent report by Pew Research Center suggests that smartphone is a viable means through which consumers can access the Internet (Pew Research Center, 2014). Consequently, those with mobile phones could readily access the Internet with ease.

Notably, another stream of researches posits that factors which are individual-specific are also important determinants of Internet usage. For instance, Porter and Donthu (2006) suggest that socio-demographics play an important role in determining consumers' decision to use the Internet. In their study, those who are older, are less educated, and possess lower income have lower Internet usage rate than their counterparts. These findings coincide with those of Teo (2001), which argues that demographic variables such as age, gender, and education level are associated with Internet usage activities. Therefore, analyses regarding Internet usage should consider variations due to factors such as age.

In this paper, I aim to determine the direction of the causality between internet usage and mobile ownership for consumers of different age groups. In particular, the objective of this paper is to answer the following research questions:

1. Does increase in Internet usage boosts number of mobile owners? If so, does it differ across age groups?
2. Does increase in number of mobile ownership translate to growth in Internet usage? If so, does it differ across age groups?
3. Does the causality between Internet usage and mobile ownership run in both directions?

From the perspective of public policy makers, results could identify the appropriate direction for fostering usage of the Internet to procure nation's economic growth. In addition, this paper contributes by determining age-group-specific strategy for promoting Internet usage. If empirical evidence of a bi-directional causality exists, it would urge policy makers to be aware that the effectiveness of marketing campaigns, which highlight the usefulness of the Internet, must be accompanied by government's support to create ease of accessibility such as the subsidies on mobile prices.

The rest of the paper is organized as follows. In the next section, I describe the time series data utilized in the analysis. Methodology which includes unit root tests for stationarity of time series and Granger causality tests are then explained along with empirical results. Finally, I conclude in the last section with discussions and conclusions.

## DATA AND METHODOLOGY

### *Data*

As the objective of this paper is to examine the causality between Internet usage and mobile ownership, it requires that the data must come from a market where neither access to the Internet nor ownership of mobiles has reached the maturity stage at the time when data is initially collected. Therefore, Thai macroeconomic data are used for the analysis. In terms of Internet usage, more than 24.5 million Thais currently are able to access the Internet. This figure has grown tremendously from merely 8.5 million in 2006. Similarly, the number of mobile owners has also skyrocketed during the same period. In 2006, approximately 24.7 million people own a mobile, whereas 49.5 million people possess a mobile in 2015.

This paper utilizes the annual number of Thai Internet users by age groups from 2006 to 2015, made available by the Thai National Statistical Office. The data is collected by the Ministry of Information and Communication Technology via the Information and Communication Technology survey. In the

same survey, the number of mobile owners by age groups is also obtained. The 2 time series data are then merged in order to investigate the relationship between Internet usage and mobile ownership.

#### *Unit root tests*

Prior to performing Granger causality tests, time series data must be evaluated for their stationarity. According to Engle and Granger (1987) and Enders (1995), stationarity refers to a series whose mean, variance, and autocovariance do not vary over time. In order to test for stationarity, Dickey-Fuller unit root tests are conducted using proc AUTOREG in SAS. Specifically, the following hypotheses are tested for each time series:

$$H_0: \alpha = 1$$

$$H_a: |\alpha| < 1$$

, where  $\alpha$  is the autoregressive coefficient. In order to test for a unit root, I allow time series to follow 3 distinct types of models:

1. The zero mean model

$$y_t = \alpha y_{t-1} + \varepsilon_t \quad (1)$$

2. The constant mean model

$$y_t = \mu + \alpha y_{t-1} + \varepsilon_t \quad (2)$$

3. The trend model

$$y_t = \mu + \beta t + \alpha y_{t-1} + \varepsilon_t \quad (3)$$

, where  $y_t$  is the time series and  $\varepsilon_t$  is the white noise error.

The results of testing the order of *Internet\_Usage* and *Mobile\_Ownership* are provided in Tables 1 and 2, respectively. The tests suggest that both time series are stationary under all three distinct specifications: zero mean, single mean, and trend (p-value for all time series data are greater than 0.05). Therefore, the original time data series can be used directly to determine the relationship between number of mobile ownership and Internet usage.

*Table 1*  
*Dickey-Fuller Unit Root Tests for Internet Usage Data*

Age Group	Specification	r	p-value
6-10	zero mean	0.91	0.8389
	single mean	-0.01	0.9236
	trend	216.16	0.9999
11-14	zero mean	-1.75	0.3308
	single mean	-1.08	0.8333
	trend	3.1	0.9959
15-19	zero mean	0.19	0.6889
	single mean	1.43	0.9777
	trend	-9.14	0.1905
20-24	zero mean	-0.19	0.6044
	single mean	3.02	0.9942
	trend	3.31	0.9963
25-29	zero mean	1.33	0.9033
	single mean	2.70	0.9925
	trend	4.85	0.9982
30-34	zero mean	-4.59	0.1010
	single mean	3.68	0.9965
	trend	4.64	0.9980
35-39	zero mean	35.00	0.9996
	single mean	4.16	0.9975
	trend	4.24	0.9976
40-49	zero mean	2.73	0.9805
	single mean	5.67	0.9991
	trend	5.34	0.9985
50-59	zero mean	1.10	0.8714
	single mean	1.01	0.9702
	trend	1.47	0.9905
> 60	zero mean	1.65	0.9354
	single mean	1.66	0.9818
	trend	0.73	0.9858

*Table 2*  
*Dickey-Fuller Unit Root Tests for Mobile Ownership Data*

Age Group	Specification	r	p-value
6-10	zero mean	1.24	0.8917
	single mean	0.1	0.9303
	trend	56.03	0.9999
11-14	zero mean	-1.13	0.2360
	single mean	-2.14	0.7027
	trend	7.3	0.9993
15-19	zero mean	3.66	0.9927
	single mean	-4.97	0.3076
	trend	2490.92	0.9999
20-24	zero mean	-2.45	0.2505
	single mean	-1.92	0.7316
	trend	1.79	0.9920
25-29	zero mean	-0.65	0.5098
	single mean	-3.12	0.5614
	trend	1.44	0.9903
30-34	zero mean	-1.03	0.4393
	single mean	-2.29	0.6822
	trend	0.49	0.9837
35-39	zero mean	0.09	0.6671
	single mean	-1.68	0.7623
	trend	-2.25	0.9222
40-49	zero mean	6.57	0.9992
	single mean	-0.71	0.8703
	trend	1.03	0.9879
50-59	zero mean	0.82	0.8226
	single mean	-4.33	0.3882
	trend	8.57	0.9995
> 60	zero mean	1.28	0.8967
	single mean	1.28	0.9745
	trend	1.53	0.9908

*VAR model*

As mobile is a common means through which consumers access the Internet, there should exist a relationship between number of mobile ownership and Internet usage across age groups. In other words, I conjecture that these variables are not only contemporaneously correlated to each other, but they are also correlated to each other's past values. According to Sims (1980), models only containing exogenous variables are not suitable. In this study, the vector autoregressive model (VAR), which allows for an estimation of a short-run dynamic relationship among endogenous variables, will be estimated to fit the time series data. The 1<sup>st</sup>-order bivariate VAR system is given by:

$$\begin{bmatrix} Internet\_Usage_t \\ Mobile\_Ownership_t \end{bmatrix} = \delta + \Phi \begin{bmatrix} Internet\_Usage_{t-1} \\ Mobile\_Ownership_{t-1} \end{bmatrix} + \varepsilon_t \quad (4)$$

, where  $\delta = \begin{bmatrix} \delta_1 \\ \delta_2 \end{bmatrix}$  is a constant vector and  $\Phi = \begin{bmatrix} \Phi_{11} & \Phi_{12} \\ \Phi_{21} & \Phi_{22} \end{bmatrix}$  is a  $2 \times 2$  matrix of parameters.  $\varepsilon_t$  is a vector of white noise process with  $\varepsilon_t = \begin{bmatrix} \varepsilon_{1t} \\ \varepsilon_{2t} \end{bmatrix}$  such that  $E(\varepsilon_t) = 0$ ,  $E(\varepsilon_t \varepsilon_t') = \Sigma$ , and  $E(\varepsilon_t \varepsilon_s) = 0$  for  $t \neq s$ .

A series of bivariate VAR systems are estimated using VARMAX procedure in SAS. In order to assess model fit, Corrected Akaike Information Criteria (AICC) and Schwartz Bayesian Criteria (SBC) are reported.

$$AICC = \log(|\bar{\Sigma}|) + \frac{2r}{T-k} \quad (5)$$

$$SBC = \log(|\bar{\Sigma}|) + \frac{r \log(T)}{T} \quad (6)$$

, where  $r$  denotes the number of parameters estimated,  $k$  is the number of dependent variables,  $T$  is the number of observation used to estimate the model, and  $\bar{\Sigma}$  is the maximum likelihood estimate of  $\Sigma$ . Table 3 reports criterion values for models across age groups.

*Table 3*  
*Model Fit Statistics*

Age Group	AICC	SBC
6-10	45.75	45.22
11-14	47.44	46.91
15-19	45.84	45.30
20-24	47.06	46.52
25-29	47.52	46.99
30-34	46.78	46.25
35-39	46.46	45.93
40-49	48.38	47.84
50-59	45.03	44.49
> 60	46.61	46.07

*Granger causality tests*



The concept of Granger causality is rather a straightforward one. In particular, this sense of causality is defined by Granger (1969) and Sims (1972). That is, a variable Grange causes another variable if its inclusion into equation for another variable makes a significant contribution. Therefore, the Granger causality test as suggested by Enders (1995) is employed to determine causality between mobile ownership and Internet usage. Though a conventional F-test may be utilized to test the restriction that all lags of the variable do not enter significantly into VAR model specification, this paper employs Wald statistic instead. Consider (4) in the following form:

$$\begin{bmatrix} \Phi_{11}(B) & \Phi_{12}(B) \\ \Phi_{21}(B) & \Phi_{22}(B) \end{bmatrix} \begin{bmatrix} Internet\_Usage_t \\ Mobile\_Ownership_t \end{bmatrix} = \begin{bmatrix} \delta_1 \\ \delta_2 \end{bmatrix} + \begin{bmatrix} \varepsilon_{1t} \\ \varepsilon_{2t} \end{bmatrix} \quad (7)$$

, where  $\Phi_{ij}(B)$  are vectors of coefficients.

According to (7), the variable *Internet\_Usage* causes *Mobile\_Ownership* if  $\Phi_{21}(B)$  is statistically different from zero. On the other hand,  $\Phi_{12}(B) = 0$  would infer that *Mobile\_Ownership* does not cause *Internet\_Usage*. The implication of this model structure is that future values of the process *Internet\_Usage* can either be influenced by its own past value and not by the past value of *Mobile\_Ownership* or both, and vice versa. For the case where the future *Internet\_Usage* are not affected by the past values of *Mobile\_Ownership*, it would be more appropriate to model *Mobile\_Ownership* separately from *Internet\_Usage*. That is, the VAR model is unnecessary.

The CAUSAL statement under VARMAX procedure in SAS is employed to conduct Granger causality tests. Specifically, Wald statistic is calculated for the 2 following sets of hypotheses:

$$H_0: \Phi_{12}(B) = 0$$

$$H_a: \Phi_{12}(B) \neq 0$$

and

$$H_0: \Phi_{21}(B) = 0$$

$$H_a: \Phi_{21}(B) \neq 0$$

Table 4 contains Chi-square and corresponding p-value for Granger causality tests. The first set of hypotheses examines whether mobile ownership 'Granger cause's Internet usage. Results indicate that being an owner of mobile devices causes a consumer to use more of the Internet for consumers aged 6-10 (p-value < 0.0001), 15-19 (p-value = 0.0357), and over 60 years old (p-value = 0.0182). For consumers belonging to other age groups, inconclusive results are obtained from Granger causality tests at the significance level of 0.05. On the other hand, there exists no evidence that an increase in Internet usage would 'Granger cause' higher number of mobile owners. In other words, it is unable to conclude that number of mobile owners assists in explaining Internet usage. This is due to the fact that p-values for Granger causality tests exceed 0.05 for all analyses across age groups.

*Table 4*  
*Granger-causality wald tests for each age group*

Hypothesis	Chi-square	p-value
Ho: Mobile ownership does not 'Granger cause' Internet usage		
Ha: Mobile ownership 'Granger cause's Internet usage		
Age Group		
6-10	<b>15.72</b>	< 0.0001
11-14	1.16	0.2823
15-19	<b>4.41</b>	0.0357
20-24	0.16	0.6862
25-29	0.04	0.8373
30-34	0.04	0.8442
35-39	0.00	0.9964
40-49	0.09	0.7640
50-59	1.06	0.3024
> 60	<b>5.57</b>	0.0182
Ho: Internet usage does not 'Granger cause' mobile ownership		
Ha: Internet usage 'Granger cause's mobile ownership		
Age Group		
6-10	0.04	0.8407
11-14	0.08	0.7836
15-19	0.86	0.3531
20-24	0.26	0.6112
25-29	0.06	0.8062
30-34	1.42	0.2322
35-39	0.26	0.6105
40-49	2.12	0.1455
50-59	1.97	0.1607
> 60	0.22	0.6406

*\* Boldface denotes Chi-square statistic which is significant at the 0.05 level*

## DISCUSSIONS AND CONCLUSIONS

Due to its significant contributions to economic growth, governments employ various measures in order to boost Internet usage within the nation. In line with the Technology Acceptance Model (TAM), perceived usefulness and perceived ease of use tend to play a major role in determining adoption of technology. Consequently, policy makers attempt to promote benefits of the Internet to their citizens in order to entice them to use the Internet more extensively. Moreover, governments also attempt to improve accessibility to the Internet by spending more on related infrastructure and affordability of mobile devices. Towards proposing a more appropriate direction for policy makers, this paper aims to investigate the causality and its direction between mobile ownership and Internet usage. The analyses conducted are age-specific as demographics have been shown to influence Internet usage rate.

Estimation results suggest that mobile ownership 'Granger cause's Internet usage for consumers aged 6-10, 15-19, and older than 60 years old at the significance level of 0.05. For consumers of other age groups, there is not enough evidence to reject the null hypothesis that mobile ownership does not 'Granger cause' Internet usage. Interestingly, empirical results do not support the hypothesis that Internet usage 'Granger cause' mobile ownership for any age segments at the significance level of 0.05. Essentially, this implies that consumers who use Internet more will not encourage them to purchase mobiles, a means through which they would access the Internet with. On the other hand, if more consumers own a mobile, the number of Internet users will also be increased.

This paper therefore contributes to both literatures and practitioners. First, empirical results shed light on an appropriate policy to raise Internet usage rate. That is, if mobiles are made affordable to a wider audience, the use of Internet will require less effort as the device to access is readily available. Ultimately, nation's usage rate will gradually rise as a result. On the other hand, promotional campaign which encourages citizens to perceive benefits of the Internet will not be sufficiently effective to motivate them to purchase a device. Secondly, similar to Porter and Donthu (2006) and Teo (2001), finds that age remains a significant determinant of technological adoption. Policy makers must, therefore, be aware that variation in effectiveness of marketing efforts does exist across age groups.

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## CORPORATIONS PUBLIC ALLEGATIONS: THE BUFFERING EFFECT OF CSR STRATEGY ON CONSUMER SKEPTICISM

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### ABSTRACT

Previous research suggests that corporate social responsibility (CSR) can be a firm's communication instrument to stimulate positive consumer behaviour such as positive word-of-mouth. Skarmeas & Leonidou (2013) find that when firms faces allegation concerning social irresponsibility, CSR strategies might aggravate consumers' negative, instead of positive, responses. To complete research in the CSR domain, this study focuses on the condition when a firm lapses into scandal and examines the effect of CSR initiatives on consumers' skepticism and attitude toward that firm. This study integrates three CSR strategy communication factors: proactivity (proactive/reactive), length of time (longer/shorter) and communication sources (internal/external). The results indicate that consumers perceive a firm with moral or ethical character when it conducts long-term engagement CSR strategy. On the other hand, if a company reactively involves in CSR initiatives, consumers will attribute the firm with more egoistic-driven motives. Egoistic-driven attribution relates positively to consumer skepticism and has negative influence on consumers' attitude. On the contrary, values-driven attribution relates negatively to consumer skepticism and has positive impact on consumers' attitude. This research investigates the effect of CSR strategy and the results could provide corporates guidelines as to how to conduct CSR tactics during crisis.

**Keywords:** *Corporate social responsibility, Attribution Theory, Skepticism, Equity, Word of Mouth.*

### INTRODUCTION

Ting Hsin is a Taiwanese-owned conglomerate based in China and a major manufacturer and retailer for food and beverage products in the Greater Chinese market. The group is well known for its philanthropic efforts; for instance in 2010, it has set up a charitable foundation with an input of US\$ 3.2 million for schools, scholarships, and disaster relief. Nevertheless in late 2013, Ting Hsin was embroiled in a food scandal of tainted cooking oil. Despite its reputation for the charitable acts, a nation-wide boycott was triggered in Taiwan, from individual consumers to local governments. It is reported that the boycott has results in over US\$31 million lost.

Business experts increasingly have stressed the importance of corporate social responsibility (CSR), which is considered a key instrument to enhance a firm's reputation and affect consumers' intention and behaviours including positive word of mouth (Bhattacharya and Sen, 2004). Some scholars argue that even during crisis, a company's past performance in CSR could still enable consumers to retain positive attitudes toward it (Coombs and Holladay, 1996), while others are more reserved with its effect as a crisis communication tool (Vanhamme and Grobben 2008).

Recent research indicates inconsistent implications of CSR. Groza et al. (2011) find that when the motive for a CSR act is perceived to be stakeholder-oriented, consumers would have a more negative attitude towards the company and lower their purchase intention. Skarmas and Leonidou (2013) conclude that a stakeholder-driven CSR strategy would trigger consumer skepticism which ultimately lead to decrease on positive word-of-mouth. Vanhamme and Grobben (2008) argue that when a company faces a crisis, shorter length of CSR history would impact negatively on consumer perceptions. Vanhamme et al. (2014) suggest that if allegations of social irresponsibility emerge, firm transmits CSR information through third-party will aggravate consumers' negative attitude toward the firm. Romani et al. (2013) conclude that CSR may work to influence consumer responses in negative scandals, but only in a neutral position.

Bhattacharya et al (2009) put a call to a better understanding of CSR activities and the underlying processes driving consumer responses. This research attempts to respond to this call and examine the effect of CSR strategies on consumers' intention and behaviour when social irresponsible issues surface.

## LITERATURE REVIEW

Consumers' perception on a firm's CSR contribution depends on how much it commits itself to a cause (L'Etang, 1994). The level of perceived commitment is constituted of three components: the amount of input, the durability of the association, and the consistency of input (Dwyer et al., 1987). These components can be translated into different strategic tools that a company adopt to communicate their CSR activities, including level of proactivity(proactive/reactive), length of time (longer/shorter) and communication sources (internal/external).

The timing of engaging in CSR is the determinant in relation to whether it is a proactive or reactive CSR activity (Rim, 2013). Proactive strategy refers to a firm involved with CSR initiatives prior to any negative information being received by consumers (Du et al., 2007). Similarly, reactive strategy refers to that firm reactively involve in CSR activities after consumers receiving negative information about a firm's irresponsible actions (Wagner et al., 2009). Firms usually conduct reactive strategy so as to restore their reputation and image of the organization; whereas proactive strategy is adopted when

firms intend to maintain or enhance their reputation (Rim, 2013). When a company engages in proactive CSR, publics tend to attribute more altruistic motives to its CSR and evaluate the company reputation more positively than a company without proactive CSR (Rim, 2013).

Consumers consider a firm that has longer commitment to a social cause as more genuine and well-motivated whereas that has shorter commitment as egoistical and firm-serving motivated (Webb & Mohr, 1998). The length of time in CSR activities can be used as a cues to determine a company's social legitimacy, which is a key to a firm's long-run survival (Handelman & Arnold, 1999). Vanhamme & Grobбен (2008) indicate that consumers and other stakeholders are found to more willing to trust companies with a longer record of CSR engagement. Therefore during scandals regarding to a firm's irresponsibility, it should defend its social legitimacy and reputation through emphasising on the firm's past performance. Barton (1993) suggests that the majority of customers seem more willing to forgive a company with longer performance history.

Communication of CSR activities can be disseminated through channels controlled by a third party, such as magazine articles, or those that companies have full control of, such as advertisements or newsletter (Vanhamme et al. 2014). The perceived credibility of a source has a substantial influence on the degree to which people are persuaded by the message (Newell et al., 1998). Most consumers expect more credible information to come from third-party sources (Mohr et al., 2001). They tend to become more sceptical and view corporate as more self-interests when messages are sourced from company-controlled channels (Wiener et al. 1990). Simmons & Becker-Olsen (2006) conclude that consumers perceive a firm's CSR initiatives more positive when they receive the information from an independent association, compared to from corporate source.

In marketing, consumer skepticism refers one tendency to doubt and question the marketing agent's claims (Chylinski & Chu, 2010). Skarmeas and Leonidou (2013) identify four factors as the underlying drives for consumer skepticism. Stakeholder-driven motives indicate consumers belief in that a company's involvement in CSR is to achieve different stakeholders' expectation. Egoistic drive refers to when consumers believe that companies, rather than provide their support, take advantage of the social causes. These two drives are more self-centred and would trigger consumers' skepticism. On the other hand, values-driven motives reflect consumers belief in that the company participate in CSR activities purely because the company have moral, ethical characteristic. When consumers believe that company can achieve its business goal while supporting the causes, the company might be attributed to strategic-driven motivated. These two drives are other-centred motives. They would induce consumers' more favourable responses to the company and reduce consumer skepticism.

The study of Groza et al. (2011) find that proactive CSR initiative have a positive effect on values-driven attribution. On the other hand, reactive CSR only occurs when there are unexpected events and a firm will right their social wrongdoings to achieve all stakeholders' expectations. Thus, when a company engages in proactive CSR, publics tend to attribute more altruistic motives to its CSR and evaluate the company reputation more positively than a company without proactive CSR (Rim, 2013). Consumers are found to view a shorter commitment as egoistic-driven and/or stakeholder-driven by strategic performance demands while a longer commitment is more likely to be value-driven (Ellen et al., 2006). This is because a shorter commitment is more likely to be a reactive response to an unexpected event. However, this research regards proactivity and length of time as two independent factors as there have been firms reactively make promises to start engaging in long-term CSR activities. Therefore, it is not definite in practice that proactive CSR always match a longer term commitment and reactive CSR always match a shorter term commitment.

The choice of communication to deliver a company CSR messages would also influence consumer perception of a company's CSR strategy. Conveying proactive CSR information from internal channel will maximise positive returns from CSR investment; yet relying on external sources to disseminate reactionary information may minimise any possible negative effects (Groza et al., 2011). Vanhamme et al. (2014) further explore the topic and find that when the CSR initiatives of a company are irrelevant to the domain of social irresponsibility, delivering CSR information via a company-controlled source will buffer decreased attitude toward that company. On the other hand, transmitting CSR information through a third-party source will aggravate negative consequences in a company crisis.

Consumer skepticism would lead to various results, including consumers' tendency to spread good word-of-mouth, their resilience to negative information, and brand equity. Consumers would engage in word-of-mouth to communicate their positive or negative experiences, feelings and emotions with a firm (Herr et al. 1991). Forehand and Grier (2003) find that consumers' skepticism toward firms will facilitate them to share their doubts, verify their suspicions and warn others. Skarmas and Leonidou (2013) also suggest that consumers, who are skeptical toward CSR efforts of a firm, will inhibit their willingness to talk positively about the firm to their acquaintances. On the other hand, consumers who are less sceptical and perceive the firm with a "reservoir of goodwill" would be less likely to allow external but negative information to underrate their general view of the firm (Eisingerich et al. 2010).

Consumer skepticism could impact brand equity in the sense that, once consumers perceive a firm pays attention to CSR initiatives, they will have more positive attitudes to that company (Cho, 2006). However, once consumers' skepticism surface, the value of that firm in consumers' mind will be undermined. Brand equity would further influence consumers' level of resilience to negative



information (Ahluwalia et al., 2000) and tendency to produce positive word-of-mouth (Skarmeas and Leonidou, 2013). The research framework is presented in Figure 1, with consumer support of CSR as a control variable. Congruence between consumers' perception of themselves and the company would vary with consumers' CSR support. Compared to consumers who do not support CSR efforts, consumers who are more supportive would have more positive evaluation toward companies (Sen, 2001)

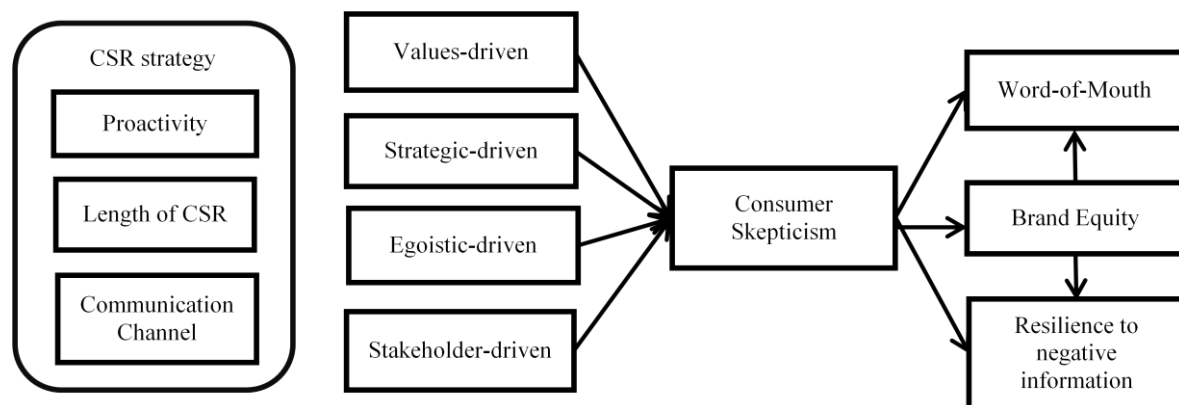


Figure 1. *Research Framework*

## METHODOLOGY

To test the hypotheses, we used a between-subject experimental design with eight conditions including 2 (long and short CSR length of time)\*2 (proactive and reactive)\*2 (internal and external communication sources). This research uses a fictitious company, DARKCHOCOLATE, to ensure the absence of any prior knowledge of the company among respondents, which could influence the research results. Participants first are asked read a text including three sequential parts. The first section consists of the introduction of the fictitious company and the company's CSR information sourced from an online press. In the next page, there is a statement: "Two weeks later, you see another press which is about distributing dividend of DARKCHOCOLATE." Finally, respondents read a piece of news describing fictive incident about that company's irresponsibility derived from an online press. We counterbalance the first and the last sections to manipulate proactive CSR and reactive CSR. Before conducting the experiment, this research conducts 4-step sequential pretests with over 70 participants across 4 focus groups to ensure the validity of our scenarios.

Multiple item scales measuring each variable and the effect between them are identified from previous research and modified to fit the context of this research. They are translated and back-translated between English and Chinese ensure absence of ambiguities. All items are measured on a 7-point

Likert-scale response format ranging from strongly agree (1) to strongly disagree (7). The items measuring consumer attributions are sourced from the study of Ellen et al. (2006) and Vlachos et al. (2009). The measure for consumers' skepticism toward the CSR efforts of a firm is adopted from Skarmeas and Leonidou (2013). The measure for consumers' willingness to share positive word-of-mouth is adopted from Arnett et al. (2003), brand value from Yoo et al. (2000), and consumers resilience to negative information from Eisingerich et al. (2010). Lastly the control variable of CSR support is sources from Vanhamme and Grobben (2008).

The data collection procedure for this research is an online survey, and respondents were derived from the convenience sampling method. Potential respondents were approached randomly. Based on the topic of the stimuli, we target people form age 20-44 which is because they tend to be heavy chocolate consumers. To check for the success of the manipulations, participants rate the extent to which they believe the company conducts strategies of longer time, proactivity and internal information sources.

## RESULTS AND ANALYSIS

A total of 300 participants took part in this research. After deducting invalid questionnaires, there are 296 participants employed in the analysis, which is include 140 male and 156 female with in average 37 participants for each stimuli. Exploratory factor analysis and item-to-total correlations are used to examine the internal consistency of the scales. Items with low item-to-total correlations, weak individual loadings on each factor, and high cross-loadings are dropped from further analysis. Confirmatory factor analysis with maximum likelihood estimation is used to assess the validity of the remaining set of items. Multivariate kurtosis value and skewness value for all factors are less than 3.

Findings for the measurement model indicate a good fit to the data with the chi-square ( $\chi^2 = 752.417$ ) for this model is statistically significant ( $p < 0.001$ ) for 314 degrees of freedom, favorable fit indices include a ratio of chi-square to the degrees of freedom ( $\chi^2/df$ ) of 2.396, a comparative fit index (CFI) of 0.923, an incremental fit index (IFI) of 0.924, a root mean square error of approximation (RMSEA) of 0.069, a standardized root mean square residual (SRMR) of 0.0696. All indicators loaded significantly on the latent variables they were intended to represent (the average factor loading was 0.82, and the minimum t-value was 0.903), which provides evidence of convergent validity. Cronbach's alpha scores for the constructs range from 0.770 (strategic-driven attributions) to 0.895 (Word-of-Mouth and brand equity). Table 1 shows the means, standard deviations, and intercorrelations of the constructs.

Measures	1	2	3	4	5	6	7	8	9
1.values -driven	1.00								
2.Egoistic-driven	-.29	1.00							
3.Strategic-driven	-.19	.34	1.00						
4.Stakeholders - driven	.63	-.03	-.09	1.00					
5.Consumer skepticism	.83	-.43	-.20	.60	1.00				
6.WOM	.77	-.36	-.18	.57	.85	1.00			
7.Resilience to negative information	.64	-.27	-.12	.44	.70	.74	1.00		
8.Brand equity	.79	-.34	-.21	.56	.82	.85	.73	1.00	
9.CSR support	.35	.17	-.03	.38	.29	.35	.25	.34	1.00
Cronbach's alpha	.85	.84	.77	.76	.84	.90	.83	.90	.79
Average variance extracted (AVE)	.69	.76	.57	.66	.75	.83	.75	.83	.71
Composite reliability (CR)	.90	.90	.79	.85	.90	.94	.90	.94	.88
Mean	3.42	3.05	2.79	3.51	3.76	4.10	3.44	4.02	3.22
Standard deviation	1.07	1.12	0.95	1.13	1.19	1.19	1.08	1.14	0.98

Table 1. *Correlation Matrix, Reliability, and Descriptive Statics*

Several steps are taken to reduce the risk of common method bias. For instance, the particular design and administration phases of the survey ensured the use of clear grammar and concise scale items; guaranteed and communicated anonymity and confidentiality to all study participants; made explicit that the questions had no right or wrong answers; grouped construct items in general topic categories, and employed different response formats. Using varimax rotation, the results of an exploratory factor analysis with all the model variables showed that nine factors accounted for 65.84% of the total variance, with the first factor explaining only 32.93% of the variance, suggesting the absence of a single general factor in the data set.

At first, we conduct SEM to test the relationship between consumer attributions and consumer skepticism. The results summarized in table 2 reveal that, with the exception of H1c—stakeholders-driven attributions positively relates to consumer skepticism ( $\beta=0.177$ ,  $p<0.01$ )—the relationships between consumer attributions and skepticism are all supported and in the theorized direction. To follow up, this research tests values-driven and egoistic-driven in different scenarios.

Hypotheses	Standardized loading	t-value
values -driven→consumer skepticism	.66	24.26 **
egoistic -driven→consumer skepticism	-.22	8.32**
strategic-driven→consumer skepticism	-.09	.72
stakeholders -driven→consumer skepticism	.20	9.26**
consumer skepticism→WOM	.46	15.68**

consumer skepticism→ resilience to negative information	.33	6.41**
consumer skepticism→brand equity	.78	57.61**
brand equity→WOM	.46	15.85**
brand equity→resilience to negative information	.46	9.36**
CSR support→consumer skepticism	.06	3.09**
CSR support→WOM	.06	3.97**
CSR support→resilience to negative information	-.00	0.02
CSR support→brand equity	.11	5.95**

Table 2. *Model Factor Loadings and Significance*

Univariate results indicated that participants exposed to the proactive information perceived the company to be more egoistic-driven ( $M_{\text{proactive}} = 3.27$ ,  $M_{\text{reactive}} = 2.82$ ,  $F_{1, 294} = 12.79$ ,  $p < 0.01$ ); participants exposed to the longer time of CSR perceived the company to be more values-driven ( $M_{\text{long}} = 3.16$ ,  $M_{\text{short}} = 3.68$ ;  $F_{1, 294} = 19.22$ ,  $p < 0.01$ ). Proactivity of the CSR initiative has no significant influence on values-driven attribution ( $M_{\text{proactive}} = 3.30$ ,  $M_{\text{reactive}} = 3.54$ ); the length of CSR initiative has no significant influence on egoistic-driven attribution ( $M_{\text{long}} = 3.17$ ,  $M_{\text{short}} = 2.92$ ). Moreover, consumer perceived values-driven attribution has no statistical significance between internal and external communication channels ( $M_{\text{internal}} = 3.41$ ,  $M_{\text{external}} = 3.43$ ); consumer perceived egoistic-driven attribution has no statistical significance between internal and external communication channels ( $M_{\text{internal}} = 3.06$ ,  $M_{\text{external}} = 3.03$ ). The overall result suggests that reactive CSR initiatives make consumers perceive company to be more egoistic-driven; whereas longer length more values-driven. In addition, consumers are more skeptical toward a company when they think the firm is egoistic-driven; but less skeptical when values-driven. Longer-time engagement in CSR initiatives would buffer consumers' skepticism; but reactive CSR would aggravate consumers' skepticism.

In line with past studies, CSR skepticism associates positively with WOM ( $\beta = 0.46$ ,  $p < 0.01$ ), brand equity ( $\beta = 0.78$ ,  $p < 0.01$ ), and resilience to negative information ( $\beta = 0.33$ ,  $p < 0.01$ ), respectively. Brand equity relates positively to WOM ( $\beta = 0.46$ ,  $p < 0.01$ ) and resilience to negative information ( $\beta = 0.46$ ,  $p < 0.01$ ), respectively. Overall, the research model predicts more than half of the observed variance for resilience to negative information (56.2%), equity (67.7%), CSR skepticism (75.5%) and WOM (80%).

## DISCUSSIONS

In summary, the findings include that if a firm engages in CSR initiatives for a long time, consumers will attribute the company to be more values-driven motives; if a firm reactively involves in CSR activities after the company facing allegations, consumers will attribute the firm to be more egoistic-driven motives. In addition, values-driven motives and stakeholder-driven motives buffer consumers' skepticism, while egoistic-driven attributions contribute to the development of consumer skepticism

toward a firm's motivation to engage in CSR initiatives. On the other hand, strategic-driven attributions neither facilitate nor alleviate CSR skepticism. Our findings indicate that corporates should pay more attention to consumers' attributions, especially for values-driven and egoistic-driven to buffering consumer skepticism. In order to buffer consumer skepticism when a corporate facing allegation, the firm should disseminate the CSR information about long time of CSR engagement, while the company should avoid convey the information about reactive CSR initiatives. There is an indirect relationship between CSR strategies especially for length of time in CSR and reactive strategy and consumer skepticism.

With regards to the third strategy which is communication channels, the results claim that there is no significant influence on consumer attributions no matter what communication sources CSR information comes from. The findings suggest that compared to CSR information sources, consumers pay more attention to the length of time in CSR engagement and proactivity, which will result in values-driven attribution and egoistic-driven motivations respectively.

The results of the relationship between consumer skepticism, brand equity, WOM and resilience to negative information support the findings of Skarmeas and Leonidou (2013). The findings indicate that consumer skepticism will mitigate consumers' willingness to disseminate positive word-of-mouth. In addition, consumer skepticism also results in lower levels of brand equity, resilience to negative information. It is an indication that when consumers are skeptical toward CSR engagement, the incremental value of a brand in consumers' mind will decrease. Collectively, corporates should pay more attention to their brand equity, since brand equity triggers resilience to negative information and facilitate positive word-of-mouth.

This study extends previous research on CSR skepticism by verifying the model including antecedents and consequences of skepticism in different scenarios consisted of CSR strategies. More specifically, the findings reveal that longer time in CSR strategy alleviate consumers' skepticism indirectly, while reactive CSR strategy triggers consumers' skepticism indirectly. Collectively, the findings demonstrate that corporate should acknowledge that adopting CSR programs can backfire unless they pay particular attention to consumers' attributions to CSR engagement. Compared to Skarmeas and Leonidou (2013), our results indicate that values-driven attribution is a critical factor of CSR engagement; thus, corporates should pay more attention to values-driven attribution in our culture. Briefly, our findings structure an integrative CSR framework including CSR strategies, consumer attributions, consumer skepticism and consumer attitude. In addition, the underlying process and the effect of CSR strategies on consumer skepticism and attitude can be evaluated through this framework.

Managerially, these findings have crucial implications for practice because a successful CSR program often depends more on buffering the “bad” than on accumulating the “good” (Baumeister et al., 2001); in addition to that, this research does much effort to investigate how to mitigate consumer skepticism and consumers’ negative attitude for enterprises in a crisis.

At first, companies should disseminate their efforts in CSR over a long time because consumers will attribute the firm to be more values-driven motives. In this case, we manipulate the scenarios of time in CSR engagement: ten years for longer time; three months for shorter time. Once consumers perceive a corporate to be values-driven attribution, they believe the company has moral character and is genuine to engage in CSR activities. Consequently, even if the company is facing allegation, consumers’ skepticism will be mitigated. Managerially, if an enterprise involved in CSR initiatives for a long time, manager should communicate with consumers especially emphasize on the length of time in CSR engagement when the company was in a crisis. The effect of disseminating high commitment to CSR initiatives not merely can mitigate consumer skepticism but also can trigger consumers’ resilience to negative information, increase brand equity and prompt positive word-of-mouth indirectly.

In regard to proactivity, our research outcomes also have great contribution to practice. The results suggest that if a firm reactively involves in CSR activities after consumers receive negative information about the firm, consumers will perceive the company to be more egoistic-driven motives compared to proactive CSR strategy. Once consumers attribute a corporate to be egoistic-driven motivation, they think the company pays more attention to their own benefit instead of supporting the cause. Accordingly, if a firm disseminates their reactive action about CSR in a crisis, consumers will be more skeptical and regard the motivation of the firm as self-serving such as restoring brand reputation. When consumers are skeptical toward a firm, they are unwilling to talk up the company; in addition to that, the brand equity and the resilience of negative information will decrease.

Collectively, this research contributes a manual for practice about CSR strategies. During a crisis, enterprises should communicate with consumers about their high commitment to cause instead of conveying their reactive action to the cause. It is possible to alleviate consumer skepticism and facilitate consumers’ positive attitude when a company facing allegation if the corporate follows the manual.

One of the limitations of this research is time constraint. We cannot conduct the fifth step of pretest; as a result, the effects of communication sources on consumer attributions were not proved. To build up an overall structure for CSR, future research should do further investigation of the relationship between communication strategy and consumer attribution. In addition, future studies could also

confirm whether a company's facebook fan page represents a firm's internal source and weekly publication stands for external source. Other unanswered questions for future research include whether it is possible to investigate what scenarios that can lead to combination of two or few consumer attributions.

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## BENCHMARKING OF SOCIAL ENTREPRENEURSHIP IN URBAN AND RURAL AREAS. A PRELIMINARY MARKET STUDY IN GREECE

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### ABSTRACT

The factors that enhance or weaken entrepreneurship in urban and rural areas have been analyzed very carefully but the scientific research on rural entrepreneurship is considered to be relatively poor. The research provides, a “deeper” knowledge of the procedures that promote or hinder social entrepreneurship in both areas, willing to be able to bridge this research gap. The research also manages to activate entrepreneurial and other types of dynamics in the areas under investigation, under the context of a pilot planning of Social Entrepreneurship according to actual and tacit needs of the local population, in order to create a favorable environment for social economy. Based on empirical data from two representative areas in Greece, Pyli and Thessaloniki, a systematic approach in recording the populations’ opinion on the issues was attempted. Main findings show that Social Economy sector can provide important solutions for creating job opportunities and could constitute an alternative dealing with the severe economic crisis in the country. The main contribution of the study seems to be its indication that there is a significant difference on rural and urban entrepreneurship even at local level. Findings actually support the assumption that different entrepreneurship support policies should be prepared for different regions at local, regional, national and European level in order to address successfully the distinctive culture and environment of the communities involved.

**Keywords:** *Social entrepreneurship, social economy, urban entrepreneurship, rural entrepreneurship, economic crisis.*

### INTRODUCTION

European Commission places particular emphasis on the Social Economy sector during the current programming period (2014-2020), through the initiatives provided by the Social Business Initiative. Social Economy can play an important role in the development of social innovation in many policy



areas, such as addressing the unemployment and the environmental protection, while it can combine profitability through solidarity, new job creation, enhancement of social cohesion, active participation and empowerment of local communities, by giving priority to the people. It can be argued that Social Entrepreneurship is an emerging alternative form of entrepreneurship based on the Social Economy. Recently, a new legal form of entrepreneurship, the Social Cooperative Enterprise (SCE), has been instituted in Greece (Law 4019/2011) by setting the operating framework for these types of enterprises. The profit of this new form of entrepreneurship comes from the activities that serve the social welfare. The third sector, as it is also known, according to a study of the International Scientific Committee for Social Economy (2000), it is well developed in European Union and mainly in Netherlands (14,7%), Ireland (12,6%) and in Denmark (12,6%), while to the lowest places in ranking stand Portugal (2,5%) and Greece (1,6%). More specifically, regarding Greece, we have to mention that according to existing statistics, the percentage of people dealing with social economy is approximately the 1,8% of the total occupation in the country and the 2,9% of the stipendiary occupation (Glaveli, 2014). Till recently the forms of social economy in Greece were occasional without showing any significant growth (Cicopa, 2013), mainly because of a number of weaknesses such as the lack of the legislative context, entrepreneurial know how and training on the issue, bureaucracy etc. (Glaveli, 2014; Baloyrdos and Geormas, 2012; Goniotakis et al., 2013).

In recent years, the factors that enhance or weaken entrepreneurship in rural and urban areas have been analyzed very carefully (Jack and Anderson, 2002), but the scientific research for the social entrepreneurship in both areas is considered relatively poor. Therefore, a “deeper” knowledge of the procedures that promote or hinder social entrepreneurship in both areas, will be able to bridge this research gap. Several researchers have attempted to analyze entrepreneurship in these areas, by using a large number of theoretical research backgrounds from various fields of science, such as Business Administration, Economics, Sociology and Geography (Stathopoulou, Psaltopoulos, and Skuras, 2004; Jack and Anderson, 2002). The aim of the present research, is to benchmark the opinions of the Greek citizens, both in urban and rural areas, about the potentials for this new form of entrepreneurship in Greece and the role that it could play for sustainable development, through the creation of new job opportunities with respect to environmental, social and cultural issues.

## LITERATURE REVIEW

### *Entrepreneurship and rural areas*

It is common that a field of social entrepreneurship, especially in rural areas, is environmental protection aiming to alternative ways for production and income earning (Borzaga et al., 2013). This new rising form of economic activity, combines the efforts for compromising economic growth and

environmental protection (Christacis, 2013), promoting a model for sustainable development based on innovation (Trigkas et al., 2012; 2011a; 2011b; Papadopoulos, et al., 2014; 2010), boosting simultaneously both local and national economies, by using local resources (Christacis, 2013; Sideartou, 2011).

The economy of rural regions depends mainly on the service sector. In general, the tertiary sector or the service sector is the main area of economic activity in the EU. In 2010 this sector represented 64.6% of added value in predominantly rural regions (Harpa et al. 2016). The secondary sector (mining, manufacturing and construction) in rural regions contributed with 30.9% of added value in 2010, slightly more than in intermediate regions and predominantly urban (29.1% and 20.8% respectively). The primary sector (agriculture, forestry and fishing) accounted for only 4.4% of added value in predominantly rural regions of the EU27 in 2010. The structure of the economy varies greatly depending on the type of region and country. The primary sector in predominantly rural regions in Greece, is only 7.0% of the total VGA, standing among the last countries in the EU-27 (Harpa et al. 2016). The importance of the secondary sector (which includes food), in predominantly rural regions in Greece recorded only 22%. On the other hand, predominantly rural regions in Greece (70.6%) presented the greatest importance of the services sector. In most countries, in rural regions, the importance of the secondary sector decreased in favor of the third sector during that period, probably due to greater impact of the economic crisis in the industry and, in particular, in construction activities in some Member States (Harpa et al. 2016)..

#### *Relations between rural and urban entrepreneurship in SME's*

Rural regions show a significant differentiation than urban ones, regarding establishment and growth of entrepreneurial activity (Backman and Palmberg, 2015). Thus, some locations are characterized by an abundance of important input factors for firm growth, such as labor, capital, information, financial resources, and material. On the other hand, urban sites bring several advantages to firms (Parr, 2002). Norton (1992) considered these advantages within three categories, and thereby found that an urban location offers (1) a diversified supply of various producer services; (2) a regional network for information flows about new production techniques, products, customers, and suppliers; and (3) a large and differentiated supply of labor.

A disadvantage with urban areas is, however, an increased competition level for resources, inputs, customers, and suppliers that has a negative influence on firm employment growth (Stearns et al., 1995). In addition, firms located in urban areas jointly create an environment in which ideas and knowledge can flow rapidly. As opposed to knowledge that can be codified, the type of complex local knowledge referred to here is distance sensitive and typically requires face-to-face meetings for

knowledge exchange to occur. Urban locations have a natural advantage over rural locations because face-to-face meetings are a positive function of the size of the location. These knowledge spillovers increase the propensity to innovate and thus increase firm growth (Audretsch, 1998; Malmberg and Maskell, 2002; Storper and Venables, 2004).

In rural areas, personal interactions and, hence, knowledge externalities are less frequent, and firms face less demand for their products in both their immediate surrounding environment (Duranton & Puga, 2004). Moreover, rural areas often lack important resources needed for firm growth, such as skilled labor and/or financial capital, or at least the supply of these production factors is less diversified in rural regions than in larger and denser regions (Backman, 2013). These factors lower the average employment growth relative to that of firms located in more urban settings (Littunen, 2000; Tunberg, 2014). However, rural firms tend to have a higher survival probability, which might be due to a lower level of competition and lower costs of doing business (van Horn & Harvey, 1998).

Davidsson and Honig (2003) found that small firms located in a rural context are heavily reliant on the resources and knowledge that can be accessed through friends and family. Consistent with that result, Meccheri and Pelloni (2006) established that firm performance in rural areas depends more on the human capital in the firm and the social local anchoring. Thus, social capital – contacts through professional and private networks – facilitates the identification and exploitation of economic opportunities and resources. This facilitation is especially important in rural areas because such resources are scarcer in these locations (Uzzi, 1999). The importance of social bonds and regional embeddedness, as previously discussed, is also important for a firm's ability to foster and sustain innovation abilities. Studies focusing on the innovation capabilities of firms have found that these social bonds are mainly built through a common corporate or educational background or family connections (Breschi & Lissoni, 2001).

Another component influencing firm growth is the financing of firms, with rural firms more often relying on financing through personal and professional networks (i.e., relationship lending). These financial resources have a geographical aspect, in that they are provided by friends and family who are in close proximity (Meccheri & Pelloni, 2006). Family firms also have an advantage in this regard because they are more locally (socially) embedded in the region. This characteristic might be very significant because rural home-based businesses were found to generate less income (Olson et al., 2003) and family businesses in rural locations were more likely to have cash flow problems (Brewton et al., 2010). Firm survival dynamics varied for rural and urban firms. Olson et al. (2003) found that rural firms were less successful than urban firms and that rural owning families derived less income from their firms than urban owning families.

For social entrepreneurship, Harding (2006) argues that, the regional differences are much narrower than they are for mainstream entrepreneurship. However, there are differences in stages of development: the most deprived wards have significantly higher levels of baby social entrepreneurs and established social entrepreneurs suggesting that there is a role for social entrepreneurship in regenerating deprived communities. Similarly, rural areas are more socially entrepreneurial than urban areas (Harding, 2006).

#### *The Greek reality in rural areas*

According to the OECD definition of rural areas (2010), 85% of the total area of Greece is rural, while the population in rural areas represents 27.2% of the total population (10.9 million in 2010). Therefore, we can say that rural areas of Greece are far more important than the average in the EU-27.

The Greek primary sector has a special social and environmental role in the global economy and provides a significant percentage of jobs (11.4% in 2011). The main industry sectors of the rural economy are meat, milk, vegetable cultivation, organic farming etc. There is a strong presence of Greek enterprises in the agro-food sector in international markets, while there is a favorable climate for agricultural production and organic livestock. Rural areas in Greece are also rich in cultural heritage and provide opportunities for diversification of the rural economy. The weak parts of rural economy vary according to geographical areas. Mountain areas are characterized by low incomes, an aging and declining population, low level of education, low social and cultural level, and a lack of infrastructure. Islands, despite the advantageous positioning, face problems of social services and transport, leading to a reduced level of exploitation of their potential. On the other hand, the favorable climate, the demand for quality products and large amount of agricultural products exported are opportunities that can be exploited in order to improve rural environment (Harpa et al. 2016).

In mountainous areas, the need for economic differentiation and integrated development is even more intense since the topography, the remoteness of these areas, the environmental constraints and the social and economic structure of the population, reduce the number of job opportunities. On the other hand, many opportunities are presented including the increased demand for recreational activities, for quality food products or for renewable energy sources etc. Furthermore, some mountainous areas are experiencing significant inflows of new residents, as a result of the economic crisis and the unemployment that occurred on the available forms of work in Greece (Trigkas et al., 2012). The population movements in these rural communities create the conditions for new investment projects and an increased income, since the new inhabitants are carrying significant entrepreneurial experience, capital and knowledge.

On the other hand, the traditional approaches concerning the development of mountainous rural areas have focused on the discovery of factors that lead to isolation by providing the conventional development tools (Efstratoglou and Psaltopoulos, 1999). The creation of competitive Small-Medium Enterprises (SMEs) constitutes a desirable solution to the existing problems. The mobilization of local resources so as to enhance the competitive advantage, local entrepreneurship and innovation, constitutes some of the development strategies that should be under serious investigation (Pezzini, 2001). Rural areas provide an innovative and entrepreneurial environment where the entrepreneurs may either prosper and grow or face very serious difficulties. The features of mountainous areas are considered major leaders not only regarding the opportunities for local entrepreneurship and innovation, but also for the weaknesses of the business process, forming a dense, complex and dynamic network of mutual interactions.

In particular, in the mountainous regions of Greece, it is observed that isolation exists from the markets and access to the consumers, the suppliers, the information sources and the institutions (Sergaki and Iliopoulos, 2010). The transportation cost of inputs/outputs is a very high and at the same time, adverse effects in information dissemination are observed. It is a major disadvantage since it impedes the function of the economies of scale and the diffusion of new technology, leading to non-competitive costs of business and finally, restricting the workforce mobility. The existence of significant natural resources and the climatic conditions of an area combining with the overall landscape can affect entrepreneurial activities, providing opportunities for the optimal use of those resources. Furthermore, in the less developed mountainous areas, cultural traditions can be found, while social trust, solidarity rules, cooperation networks and support mechanisms are absent.

Moreover, local capacity utilization has been limited to the use of local added value through local varieties, local products, special environmental conditions or even inputs of workers and knowledge. Ray's argument (1998) for the need for commercialization of local culture is a dynamic strategy for the development of innovation and entrepreneurship in rural areas. Furthermore, many researchers have highlighted that a possible development strategy for rural areas exists in the product quality markets (AEIDL, 2000; Barham, 2003; Ilbery and Kneafsey, 1998). A possible strategy as part of the broader product quality market could be the promotion of products with local or regional identity. By linking products with the "culture markets - culture economies" or local scenes such as cultural traditions and heritage, the value of the product increases because the consumers matches specific areas with specific products. Goodman (2003) claims that in Europe, the switch towards the quality of diet has offered significant opportunities for entrepreneurial activity in a new economic environment, more capable of withstanding the forces of globalization. Concurrent use of opportunities offered by Information and Communication Technologies (ICTs) will gradually set the boundaries of local markets and will

expose the economic activity to a greater competition (Grimes, 2001; Hetland & Meier-Dallach, 1998). Therefore, cognitive skills of local people will increase as access to the information will be improved (Grimes, 2000). The limited scale and sphere of influence of local markets, forces local entrepreneurs to develop innovative products and efficient marketing strategies (Papadopoulos et al., 2010, 2012) in order to compete with their counterparts in urban areas (Smallbone et al. 1999).

## RESEARCH METHOD

The research method in the present study, uses as a basic instrument a specially constructed questionnaire for the purposes of the research, according to the basic disciplines of market research (Gordon and Langmaid, 1988; Tull and Hawkins, 1990; Doyle, 1998; Aaker et al, 2004). The questionnaires were collected through personal interviews with the residents and population in the study areas, which represent a typical urban area in Greece such as Thessaloniki is, as long as in a rural area, such as the mountainous regions of the municipality of Pyli in Trikala prefecture. The research was conducted by skilled researchers who addressed the residents by personal face-to-face interviews. The questionnaire consisted by three groups and a total of 28 questions. The first group consisted of eight questions regarding the level of familiarization and information of respondents regarding the concepts of social economy and social entrepreneurship. The second group of seven questions investigated the factors that impact development and existence of social entrepreneurship in the research areas. The third group of questions offered information about the respondents' profile such as age, sex, educational level, type of business ad profession, income etc.

The sample was chosen to include respondents of different background. In order to collect the necessary data a random sampling was engaged in the areas of Thessaloniki and mountainous regions of Pyli. The questionnaires were collected during September 2015 – June 2016. Questions are short, precise and easy to be understood by the majority of respondents. Likert scale was used for the majority of the questions.

At the beginning of the research, the researchers performed content validity of the questionnaire; this regarded an extensive literature review and several conversations with experts on the social entrepreneurship issue. Furthermore an extended literature review was conducted regarding the research issues. A pilot implementation of the questionnaire was initially launched in a small number of the population. Through this pre sampling the questions that had to be improved were detected and thus the quality of the final questionnaire was improved (Dillman 2000). The data were recorded, processed and analyzed via the statistical package SPSSWIN ver 22.0 and the appropriate tests for frequency (Frequencies), descriptive statistics (Descriptives), variable comparison analysis (Crosstabs),

and Correlation analysis (Person correlation) were conducted, in order to derive critical conclusions in regard of the issue under investigation.

## RESULTS

### *Social entrepreneurship in urban areas*

The first part of the results presents the opinions of the residents in urban areas in Greece.

The percentage of the questioned that have answered positive regarding the awareness of the meaning of social entrepreneurship rises up to 43,5%, while the rest 56,5% stated that they were unfamiliar, a percentage which is quite significant showing some lack of awareness. However, these percentages could be improved throughout extended and aimed information strategies on the issue.

The awareness of the meaning of social entrepreneurship is statistically related to some of the characteristics of the profile of the surveyed population. More specifically, this relation has to do with the level of education and age (marginal) (p-value (sig.) =0,040 and 0,049 respectively) at a significance level 5%, while no statistical relation occurred regarding the sex, occupation and annual income. The adjustment of the model to the used data was tested using (p-value (sig.) =0,675) while it's prediction reaches 61.3%. Information on social entrepreneurship comes mainly through internet (49,8%) and media (16%). At lower percentages stand the word of mouth information (8%), through school (6,7%) and the newspapers (4,9%), while a significant percentage (14,7%) was informed by other means except the above mentioned.

The majority of the sample (84,8%) has answered that there is a positive contribution of social enterprises towards the confrontation of the problems that the economic crisis generates. On the contrary, only a 15,2% believes that social enterprises don't give answers towards this direction during periods of economic instability and downturn.

The answers have shown that as major result of developing social entrepreneurship in urban areas is the creation of new occupation positions and the reduction of unemployment (4,23/5). Further significant results seem to be the motivation of local resources (human capital, knowledge, culture etc.) (3,86/5), the introduction to market of new capabilities and knowledge (3,76/5), the boosting of economic activity at local level (3,74/5), the creation of an innovative entrepreneurial ecosystem (3,64/5) and finally the improvement of incomes (3,62/5). As the main sectors and activities that social entrepreneurship could be developed in urban areas, the research has highlighted the vulnerable social groups (4,17/5), education (4,13/5), health services (4,09/5), environmental protection (3,95/5), utility services (3,90/5), culture (3,71/5), the preservation of traditional activities in urban areas and corporate social responsibility (3,31/5)

Further analysis revealed a very strong relation between the positive attitude in participating to social enterprises and the belief that social enterprises contribute towards the confrontation of problems during the economic crisis period, ( $p$ -value (sig.) = 0,000) at a significance level 5%, with the model showing a prediction capability of 87,0%. More specifically, since odds ratio ( $OR = \exp(B)$ ) is 18,463, when a surveyed has the belief that social enterprises contribute positively towards the confrontation of problems generating from the economic crisis, has a 100% increased possibility for participating in a social enterprise in relation to someone with no such belief.

The significance level of the factor regarding the improvement of incomes is statistically different in relation to the participation in social enterprises or not. More specifically income improvement seem to be more significant for the surveyed that have answered positively in participating to a social enterprise (sig. = 0.010 at a significance level 5%). Hence, we can argue that social entrepreneurship in urban areas of Greece, could constitute an alternative for the mitigation of the consequences of the economic crisis, based to participatory attitude of Greek urban population, leverage of their social needs and motivation of their capabilities. Thus, if we consider as desideratum the development of social entrepreneurship in urban areas, this could be achieved through aimed information and promotion strategy on the issue in urban population. This strategy should also take under consideration the results that the study has highlighted regarding the means of information to be used regarding social entrepreneurship.

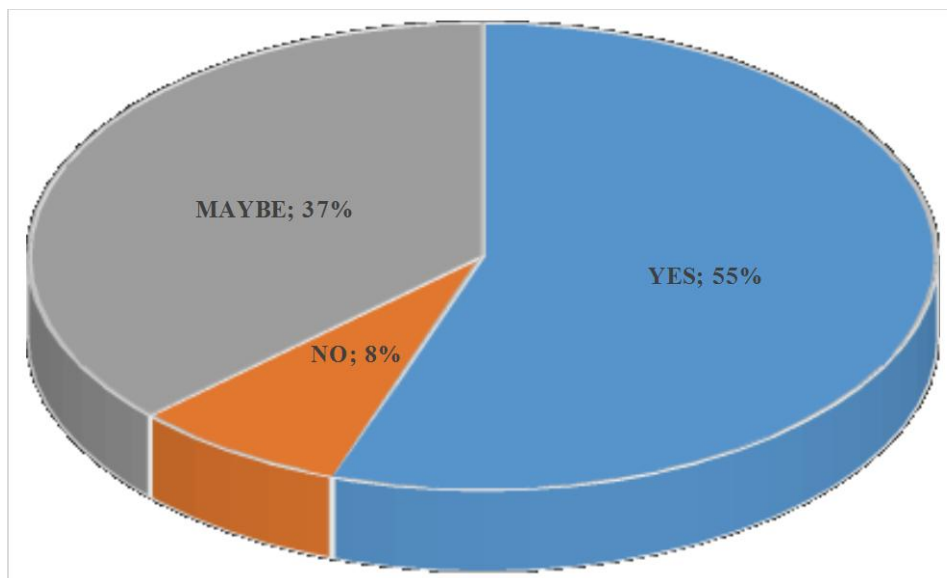
#### *Social entrepreneurship in rural areas*

The results indicate that the majority of the residents of the Pyli area are rather unfamiliar with the concepts of social entrepreneurship and social economy. A significant percentage of them (22.4%) were informed about the two concepts by the researchers that contacted the research. Almost half of the surveyed sample had a low knowledge of the concepts and only the rest 23.5% were really familiar with them. The respondents state that they lack knowledge on the issues (66.7%). Women appear to be more informed with a significant statistical relation (Pearson  $X^2 = 10.448$ , for a significance level  $>99.9\%$  Approx. Sig= 0.001). Most informed are entrepreneurs of the age 41-60 years (Pearson  $X^2 = 6.580$  for a significance level  $>95\%$  Approx. Sig= 0.037). It is quite interesting that people of the lower income (below 10.000 €) seem to be the less informed about social entrepreneurship with a statistically significant relation (Pearson  $X^2 = 23.976$  for a significance level  $>99.9\%$  Approx. Sig= 0.0001). This group perceives the concept of social entrepreneurship as the creation of business where employees are paid in the usual way but part of the profit goes to society as a whole. Those with as minimum to quite satisfactory knowledge on the social entrepreneurship concept claimed as their main sources local and regional institutes (36.7%), internet (16.3%) and mass media (10.2%). Word of mouth was the information media for only a 6.1%.



As expected, the 86.2% knew nothing about the institutional framework for social economy and social entrepreneurship in Greece or at global level. The rest 13.8% declared a rather low level of knowledge. However, the 70.8% of the respondents believes that social entrepreneurship in Greece must be supported by both public and private initiative. This percentage believes that social entrepreneurship needs more than 5 years to be well established in Greece. This can be attributed to the rather negative mood of the local residents and entrepreneurs due to the downgrading of the area the last seven years because of the severe and long-lasting economic recession.

However, when informed, almost all respondents (96.9%) agree that social enterprises can definitely (44.6%) and almost definitely (52.3%) assist the local society in solving the significant problems of the area due to the severe recession. Quite the same percentages seem to be positive in participating in a social enterprise which targets social benefits (Fig. 1). Women stated in total that they are positive but also rather skeptical in the perspective of participating into the creation of a social enterprise. The total negative percentage belongs to males. Furthermore and according to crosstabs control, there is a significant statistical relations between the intention to participate in a social enterprise and age (Cramer's  $V=0.301$  for a significance level  $>95\%$  Approx. Sig= 0.019). Actually, the bigger the age, the bigger the intention is. On the other hand, it appears that there is no significant statistical relation between the intention and the educational level or the yearly family income.



**Figure 1:** Intention of participation in social enterprises for social benefit

The importance of social entrepreneurship development in the mountainous area of Pyli appears to be: the creation of jobs (1.42); the support of the financial support at local level (1.68) and the increase of income (1.69) using the 1-5 Linkert scale (1=very important) (Table 1)

**Table 1:** Importance of social entrepreneurship development in the mountainous area of Pyli (Likert scale: 1-5; 1= strongly important)

Factors	Means	Std. Deviation
Job creation – unemployment reduction	1.42	0.99
Strengthening of the economic activities at local level	1.68	0.86
Income increase	1.69	1.17
Local resources exploitation (human capital, knowledge, natural resources)	1.74	1.02
Environment protection	1.76	1.01
Introduction of new skills and knowledge in the market	1.81	1.18
Creation of innovation entrepreneurial environment	2.05	1.21
Development of cooperation culture	2.16	1.22
Transparency and social accountability of the entrepreneurial activities	2.22	1.37

The sectors more prone to social entrepreneurship at the area of research, are: health services (1.3), livestock (1.42), forestry (1.45), tourism (1.47) as well as the socially vulnerable groups (1.48) using the Likert: 1-5 scale with 1 as very important.

The benefits that respondents expect from social entrepreneurship at Pyli area (Table 2) are according to results and using the 1-5 Linkert scale (1=very important): unemployment reduction (1.46) (unemployment has reached a percentage of 23.4% according to the Hellenic Statistical Service, 2016); the effort to keep people and more specifically the young at the area (1.52), the preservation of the local identity (1.66) and easier access to markets (1.92).

**Table 2:** Benefits which respondents expect from social entrepreneurship at Pyli area

Rates Benefits	Means	(1) Extremely important	(2) Very important	(3) Quite important	(4) Somewhat important	(4) Unimportant	(1)+(2)
Unemployment reduction	1.46	77.8	9.5	6.3	1.6	4.8	87.3
The effort to keep people and more specifically the young at the area	1.52	66.1	22.6	8.1	0.0	3.2	88.7
Preservation of the local identity	1.66	61.3	16.1	17.7	4.8	0.0	77.4
Easier access to markets	1.92	48.4	27.4	9.7	12.9	1.6	75.8
Protection of cultural and natural environment	1.94	48.4	24.2	16.1	8.1	3.2	72.6
Support of social innovation	2.07	43.3	25.0	15.0	15.0	1.7	68.3
Remove of socio-economic exclusion of the area	2.18	41.0	23.0	21.3	6.6	8.2	64.0
Niche markets creation	2.18	34.4	29.5	24.6	6.6	4.9	63.9

for innovative products							
Competitiveness support	2.25	35.0	30.0	16.7	11.7	6.7	65.0
Reduction of the deficit of social acceptance regarding entrepreneurial activities	2.26	25.8	33.9	29.0	11.0	0.0	59.7
Development of cooperative culture	2.39	32.3	21.0	27.4	14.5	4.8	53.3
Mitigation of social inequalities	2.61	29.0	19.4	29.0	6.5	16.1	48.4
The efficiency of the use of resources	2.96	25.0	12.5	16.7	33.3	12.5	37.5

Since the thirteen factors of Table 2 seem to relate each other more or less, Pearson correlation coefficient (Pcc) was used. Results at a significance level of 0.01 indicate that the most important factors that appear to impact positively each other are the following:

- Unemployment reduction impacts positively the intention especially of young people to stay at the area of (Pcc = 0.647) while it impacts positively the protection of the natural and cultural environment (Pcc = 0.567).
- The creation of niche markets for innovative products that may be developed by social enterprises are strong reasons to keep young people at Pyli area (Pcc = 0.540), support the local identity (Pcc = 0.634), the development of co-operative culture (Pcc = 0.63) and of course enhance the easier access to markets (Pcc = 0.689).
- Social innovation is a crucial precondition for the creation of niche markets for them (Pcc = 0.678), as well as it may constitute a significant reason to develop a culture of collaboration (Pcc = 0.712). Of course it facilitates access to markets for both local products and services (Pcc = 0.787).
- Consequently, the more competitive the products and services of the area (Pcc = 0.630), the easier creation of niche markets for them since they can penetrate markets much easier (Pcc = 0.712). This supports further the reduction of the deficit of social acceptance regarding entrepreneurial activities (Pcc = 0.571).
- The development of collaborative culture appears that affects positively the remove of socio-economic exclusion of the area (Pcc = 0.734), while enhancing the social innovation potential (Pcc = 0.712). This, in turn, facilitates market access (Pcc = 0.787), as well as the much more efficient use of the local resources (Pcc = 0.773).

## DISCUSSION - CONCLUSIONS

The concept of the research proposal is based on the systematic development of the Social Economy sector, focusing on differentiations among urban and rural areas of Greece. As a major finding in both areas, the research has highlighted the fact that, Social Economy sector can provide important solutions for creating job opportunities and could constitute an alternative dealing with the severe economic crisis in the country. Furthermore, social economy could promote social cohesion, which is threatened due to the adverse economic environment, by contributing to the preservation of the natural environment and the cultural heritage, especially in rural areas. The successful development of the Social Economy requires an approach that relies primarily on the local social dynamics and supporting policies and mechanisms which will play the central role for the manifestation of this dynamic. Social Economy can play an important role in the development of social innovation in many policy areas, such as addressing the unemployment and the environmental protection, while it can combine profitability through solidarity, new job creation, enhancement of social cohesion, active participation and empowerment of local communities. This is crucial, especially for rural areas, where a significant lack of knowledge spillover effects are observed, leading to an unfavorable environment for innovative business activity.

According to the findings, social entrepreneurship seems to be rather unknown to most Greeks while its nature and benefits are quite ambiguous. However, when explained, it seems to attract interest mainly among women in rural areas and among the better educated in urban ones. People perceive social enterprises as a solution especially for young and unemployed while it appears that all types of proposed activities are thought to provide chances for social enterprises. It is interesting that the quite sensitive sector of health services is considered to be the more important reflecting the inadequate existing system especially for vulnerable groups within the severe crisis framework in rural areas. In urban areas the inclusion of social vulnerable groups and education issues play more important role in developing social enterprises. These differences also show the differentiation of needs among urban and rural population in Greece. . This form of entrepreneurship could deal with the production of goods and services in sectors such as: culture, environment, ecology, education, public utility, local products, preservation of traditional activities and professions.

Another issue highlighted by the present research is that in both urban and rural areas, the successful development of the Social Economy requires an approach that relies primarily on the local social dynamics and the manifestation of this dynamic. Social Economy can play an important role in the development of social innovation in many policy areas, such as addressing the unemployment and the environmental protection, while it can combine profitability through solidarity, new job creation,

enhancement of social cohesion, active participation and empowerment of local communities. Particular emphasis should be given on young unemployed people.

- The combined research on social entrepreneurship, in both urban and rural areas in Greece, offers some insights regarding the policies and initiatives that could be developed in the country, for promoting and supporting social economy. Among others we could distinguish:
- The promotion and strengthen of networks and partnerships among population, enterprises, research organizations etc. The participating regional public and national and international research organizations could facilitate transfer of knowledge and experience as well as capacity building for key mountain entrepreneurship institutions.
- Creation and strengthen of value chains to benefit mountain communities, for example through branding of specific goods and services.
- Strengthen the information and knowledge base on sustainable mountain development and make it accessible to all concerned.
- Encouraging the private sector through appropriate policy and regulatory support so that the market can become an option for financing social sector, providing adequate financing targeted to the specific regions and social groups.
- Investing in rural regions to unlock their potential in a green economy and sustainable development, e.g., for energy, high-quality agricultural products, nature-based and organic products, culture, tourism etc. generating long-term benefits and high welfare gains regionally and nationally; they can be an important source of revenue for the local communities helping towards their social incorporation and treatment of unemployment.
- Strengthen national and international support for R&D activities on relevant issues.

The main contribution of the study seems to be its indication that there is a significant difference or rural and urban entrepreneurship even at local level. Findings actually support the assumption that different entrepreneurship support policies should be prepared for different regions at local, regional, national and European level in order to address successfully the distinctive culture and environment of the communities involved. A multidisciplinary approach is recommended, with emphasis on the target group needs, the adoption of best practices and knowledge that have been developed internationally and finally, the adjustment of related policies to the specificities of the populations and of the related economic activities. Another distinguished field promoted by the research is the need for more extensive and better research in this field in Greece, having as a starting point the systematic collection of data. A better building capacity for social economy organizations could derive by improving related research studies (EU 2013). Similar research through the mapping activities of entrepreneurial, social and other productive dynamics of urban and rural areas, the specialized Innovation, Entrepreneurship and Digital Ecosystems

market research and the activities of networking, measuring social capital and monitoring of Social Entrepreneurship, could be launched, in order to set the directions for similar research studies and to create a framework for the development and promotion of Social Entrepreneurship in several social groups and areas.

## **IMPLICATIONS - LIMITATIONS**

The research contributes to further definition of the factors that influence social entrepreneurship in urban and rural areas of Greece, so that a holistic view regarding entrepreneurial processes will be adopted, by seeking a more realistic approach and consolidation of business processes in these areas. The theoretical frameworks that have been analyzed emphasize the need to take seriously into account the environment in which the entrepreneurial process is implemented, as well as the mechanisms by which the entrepreneurs interact with the wider environment.

The results of the research bear certain limitations. Firstly, the size of the sample and was the lack of sample diversity are significant drawbacks; the field study was limited to only two geographically bounded sample in urban and rural areas, limiting the generalizability of the findings. However, this choice enabled the control for potential confounds due to cross-region differences, increased the internal validity and provided the main contribution of the study highlighting the significance of bottom-up approach of every single area of interest when regarding social entrepreneurship and policy making.

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## THE DETERMINANTS OF CONSUMER REPURCHASE INTENTION ON GREEN BEAUTY PRODUCTS

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### ABSTRACT

Green beauty products accounted for the third largest portion of sales in the UK green products market. In practice, marketing strategies with heart-felt slogans and aesthetic packaging are commonly used in green beauty products to stimulate consumers' intrinsic concern about their well-being and the environment in anticipation to boosting sales. Previous studies also place great significance on how emotional value can initiate purchases and repurchases. Underlying with Theory of Consumption Value this study targets the consumers with experience of buying and using green beauty products, and endeavours to comprehend determinants to their repurchase intentions. Multiple regression analysis was conducted to empirically examine the hypotheses on a sample of 134 respondents in the UK. The results suggest that consumers' repurchase intention is primarily motivated by their perceived value on price, followed by environmental concern and perceived value of product quality. On the contrary social value and emotional value have limited impact.

**Keywords:** *Perceived consumption value, environmental-friendly products, repurchase intention, green beauty products*

### INTRODUCTION

Environmental concerns and pro-green attitudes are enjoying a progressive growth in recent years (Olson, 2013). Consumers have become more aware of the relevance of environmental issues (Tanner and Wölting Kast, 2003), and that some products can have a negative impact on the environment as well as their health (Gurau and Ranchhod, 2005). Being One of the most popular environmental-friendly products on the market, green beauty products (GBP) in recent years occupy at a faster pace more shelf space in green retailers as well as conventional retailers (KeyNote, 2015). COSMOS standard (2013) specifies basic rules for green beauty products: use products from organic agriculture, use natural resources responsibly, adopt manufacturing process that is respectful to the environment. Green beauty product refers to a personal care and beauty product that utilises natural and organic

formulas, minimises the use of non-organic additives and only from a restricted list, meets environmental standards for packaging and manufacturing, and most importantly does not test on animals.

Compared to conventional products, green products are often considered inferior in some traditional products attributes such as higher price and reduced performances (Ginsberg and Bloom, 2004; Olson, 2013). Therefore some green marketers advocate awakening consumers' intrinsic care about the environment (Stern, 2000), and some others believe in strengthening additional emotional values with the hope that consumers would be motivated to purchase green products. For instance, green marketers can stress the sense of pride demonstrating one's altruism and social status when driving a hybrid car (Griskevicius et al., 2012).

The marketing strategy for GBP commonly attaches an aesthetic value of well-being into the notion of beauty (Todd, 2004). GBP usually presents consumers with imagery of grassy landscape and clear water as well as heart-felt slogans with the aim to trigger positive emotional responses of well-being from the customers. For example The Body Shop, a large British GBP retail chain, is well-known for being environmentally minded (Crittenden et al., 2011) and its ethical values are reflected in its company slogans: 'Enrich, not exploit' (The Body Shop, 2016) and 'Beauty with Hearts' (The Body Shop, 2013); as well as its logo design: the colour of Olive Green. Burt's Bees, another brand known for its environmental friendliness, emphasise 'nature's power' of their GBP (Burt's Bees, 2016).

The application of these added aesthetic values is based on the rationale that emotion is a key element influencing consumers' purchase intention (Moons and De Pelsmacker, 2012). It is one of the most important factors explaining specific consumer responses to marketing stimuli (Johnson and Stewart, 2005) and consumers' perceived emotional value during consumption determines their post-consumption behaviours such as brand loyalty (Koller et al., 2011). Consumers' emotional reactions to GBP's use of "Feel Green and Feel Good" strategy may be sufficient to initiate first purchase; yet its effectiveness to retain consumers and encourage repurchase remains rather unexplored.

Generally the influence of emotions on consumer behaviour is determined by their valence. Nevertheless, some other studies indicate inconsistent results that positive emotions may not always result in positive behaviours (Louro et al., 2005) and not all kinds of positive emotions can contribute to repurchase intention (Soscia, 2007). Studies on beauty products purchase decision suggest that beauty product attributes such as performance, ingredients, price and aesthetic packaging have the most significant influence on the purchase and consumption of a beauty product (Johri and Sahasakmontri, 1998). This could be the reason why emphasising product performance and ingredients continue to be

the main marketing focus for conventional beauty products (Beane, 2013). For green products and brands, similar results are found that green brands focusing mainly on functional attributes, plus a touch of emotional benefits, would earn the highest positive attitudes from the consumers (Hartmann et al., 2005).

The understanding of consumption values is particularly vital for GBP brands as large investments are made to enhance the aesthetic value of well-being in the brand meaning. Therefore the aim of this study is to explore the effect of consumers' perception of values on GBP. Specifically this paper intends to explore how emotional value would impact on consumers repurchase intention of GBP. The Theory of Consumption Values, which has been used both for traditional consumption goods and green products (Lin and Huang, 2012), is adopted as the conceptualisation framework for this research.

## **THEORETICAL BACKGROUND AND HYPOTHESES**

The concept of consumer perceived values has been widely studied in the past 30 years and its importance to initiate positive consumer purchasing behaviour continues to be acknowledged (Gallarza et al., 2011). Consumer perceived values refers to "the consumer's overall assessment of the utility of a product based on the perceptions of what is received and what is given" (Zeithaml, 1988). It is the key to the formulation of a successful marketing strategy, and is a crucial determinant in a firm's survival and maintaining long-term relationships with their customers (Holbrook, 2006).

Sheth et al (1991) provide a useful conceptualisation of consumer perceived value, namely the Theory of Consumption Values. This theory claims that it can assist researchers to understand how consumers make their purchase decision. The theory suggests that consumers' purchase decisions not only rely solely on the functional aspects of products or services, but the psychological dimensions, such as emotion. There are five independent dimensions which make varying contributions to different choice situations, including functional, emotional, social, epistemic and conditional value. Sweeney and Soutar (2001) further modify the construct on the basis that the value dimensions can be correlated and that value perception can be generated without having bought or used the product. They distinguish four different dimensions of perceived value, namely emotional value, social value, functional value with regard to price and functional value with regard to quality. This construct can also be applied to the context of post-consumption behaviours such as loyalty (Koller et al., 2011).

### *Environmental Concern*

Environmental concern is defined as the "extent to which individuals are aware of environmental problems and struggles to solve them or signify their readiness to contribute personally to the solution"

(Dunlap and Jones, 2002, p.485). It determines how individuals feel about environmental issues and what actions one can take to help or harm the environment (Peattie, 2001). Despite some concerns that there may be a low causal correlation between environmental concern and consumers' actual purchase behaviours the majority of studies indicate that consumers' concerns toward the environment is a major factor influencing their purchase decision and post consumption behaviours.

*Hypothesis 1: Consumers' environmental concerns positively influence their repurchase intention on green beauty products.*

#### *Perceived value of Green Beauty Products*

Social value associates consumers with a social group which can enhance perceptions such as social image, identification, social self-concept, expression of personality and pursuit of social class membership (Pura, 2005; Sweeney and Soutar, 2001). Social value reflected by purchasing green products is also considered a main determinant factor (Chen, 2010). The effect of social value on green product purchase has attracted research attention from marketing scholars in recent years (Bollinger and Gillingham, 2012; Griskevicius et al., 2010). Purchasing green products may reflect a person's sense of social responsibility and convey expressions about their self-concept to the public audience (Mazar and Zhong, 2010).

*Hypothesis 2: Social value positively influences consumers' repurchase intention on green beauty products.*

Functional value is defined as the perceived utility acquired from the capacity for functional, utilitarian, or physical performance of products (Sheth et al., 1991). Generally there are two main indicators of perceived functional value: product quality and price. Product quality is the basic result of functional performance, which can be evaluated by the degree of customisation and how reliably the product meets consumers' demands. High product quality can obtain greater consumer acceptance and guide their decision making process (Schellhase et al., 2000). With regards to green products, it is also found that product quality contributes to how satisfied consumers feel about the products, and as a result can significantly influence consumers' green purchase behaviour).

*Hypothesis 3: Quality value positively influences consumers' repurchase intention on green beauty products.*

Price has been found to have a negative effect on purchase intention (Sweeney et al. 1999) and it is no exception for green products (D'Souza et al., 2007). In other words, consumers are motivated to acquire better deals to get more for their money. It is in this sense that price value is defined as the utility derived from the product due to the reduction of its perceived short term and longer term costs (Sweeney and Soutar, 2001). De Pelsmacker et al. (2005) find that consumers' willingness to pay for

price premium is inconsistent with their positive attitude towards green products. If green products do not offer consumers with clear and obvious advantages over conventional products, it would be hard to justify their higher prices and consumers become less likely to purchase them (Olson, 2013).

*Hypothesis 4: Price value positively influences consumers' repurchase intention on green beauty products.*

Emotional value refers to the perceived utility acquired from a product's ability to arouse feelings or affect states (Sheth et al., 1991). It is similar to Hedonic Value that is associated with the emotional responses aroused during consumption activities. A purchase decision can involve all kinds of emotional response, such as pleasure, pride, anger, and sadness (Laros and Steenkamp, 2005). Lin and Huang (2012) identify the sense of pride that consumers have when they feel they can contribute to protecting the environment by purchasing environmentally friendly products.

*Hypothesis 5: Emotional value positively influences consumers' repurchase intention on green beauty products.*

Following the literature review and hypotheses development, the conceptual framework proposed in this study is presented in Figure 1.

## METHODOLOGY

This study conducted a questionnaire-based survey to evaluate consumers' environmental concern, perceived value of GBP and their intention to repurchase. A pilot test was carried out in forms of interviews and focus groups. Three experienced academics were interviewed to assess the face or content validity of the measurement scales. The questionnaire was subsequently pre-tested to 18 respondents with wide range of socio-demographic background. Minor changes were made to the descriptions of questionnaire items to improve the clarification and adapt the original items to fit better with the research context.

The target population is defined as consumers who have purchased GBP before. With previous experience of purchase and (assuming) usage as well, consumers' motivation to repurchase may, or may not be similar to their first-purchase. Convenience sampling method is adopted for this survey. In order to ensure that the best chance to locate the target population can be achieved, questionnaires were handed out in person, in and near retailers that sell GBP. Respondents were first asked whether they had previously purchased any GBP products and only those who had would be invited to complete the questionnaire. Consents were sought from store managers with, if any, research ethical concerns considered. Data was collected in Manchester, UK. A total of 134 usable questionnaires were collected.

As outlined in Table 1, the majority of respondents (94%) are female, about three quarters (75%) have received higher education, and two thirds (67%) are employed (either full-time or part-time). When cross-checking the income and employment status, it is found that 36 out of 40 of the respondents whose monthly wage is less than £500 are students. Nevertheless the rest of the 94 respondents spread rather evenly across the spectrum of income.

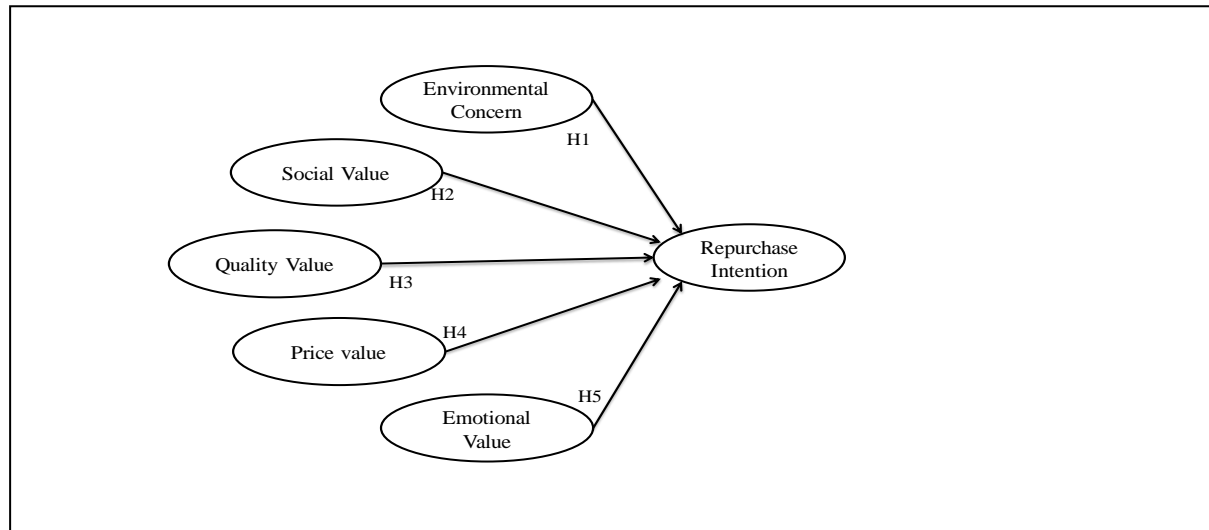


Figure 1. *Research Framework*

Variable		Frequency	Percentage	Variable		Frequency	Percentage
Gender	Male	8	6	Monthly income	£0-500	40	29.9
	Female	126	94		£500-1000	10	7.5
Age	18-24	49	36.6		£1000-1500	24	17.9
	25-34	38	28.4		£1500-2000	16	11.9
	35-44	30	22.4		£2000-3000	22	16.4
	45-54	10	7.5		£3000-4000	14	10.4
	Over 55	7	5.2		Over £4000	5	3.7
					Prefer not say	3	2.2
Employment	Full-time	72	53.7	Education	A Level or equivalent	15	11.2
	Part-time	19	14.2		UG or equivalent	51	38.1
	Student	36	26.9		Master degree	41	30.6
	Retired	5	3.7		Doctorate Degree	9	6.7
	Other	2	1.5		Other	18	13.4

Table 1. *Respondents socio-demographics*

*Construct measurement*

To examine the proposed hypotheses, the questionnaire was composed of four sections: perceived value of GBP, consumer environmental concern, repurchase intention and socio-demographic information as control variables.

*Perceived value*

To operationalise *Perceived Value*, Sweeney and Soutar (2001) develop a measurement model (PERVAL) that assess customers perceived value at four distinct dimensions - Social Value, Quality Value, Price Value and Emotional Value. The measure was initially developed to assess customer's value perceptions of consumer durable goods, and was subsequently being used in a wide range of contexts, e.g. franchise (Grace and Weaven, 2011), tourism (Petrick, 2004), sport merchandise (Lee et al., 2011). With minor modifications, its measurements are found to be both reliable and valid in various research settings including services and non-durable goods (Walsh et al., 2013). Therefore the majority of PERVAL measurements were adopted in the questionnaire.

A total of 13 variables are employed to operationalise the four elements of Perceived Value. With only one item being eliminated, the remaining 12 show decent reliabilities and are similar to the short 12-item PERVAL (Walsh et al., 2013). All items are evaluated on respondents' agreement with the 7-point Likert scale from 1 (totally disagree) to 7 (totally agree).

*Environmental concern*

Green consumers characteristically take into account the consequences of their consumption and attempt to use purchasing power to bring about social change. To measure the importance of different GBP features, respondents were asked them to rate again their level of agreement from 1 (totally disagree) to 7 (totally agree) on the following statements: i) it is important that packaging of GBP use recyclable materials; ii) it is important that GBP does not conduct animal testing; and iii) GBP is less harmful to the environment. These items are based upon Johri and Kanokthip (1998) in which they evaluate customers' attitude of product environmental friendliness toward green cosmetics and toiletries. With an average of 5.76, these three variables yield 0.83 of Cronbach's alpha.

*Repurchase intention*

To gauge customers' intention to purchase GBP, three outcome variables are used: i) I would be willing to buy GBP again, ii) I would recommend GBP to friends or relatives, and iii) I would choose GBP over other non-green beauty products. These variables were based on Sweeney and Soutar (2001), with

adaptation made to fit into our research context. Because the respondents had purchased and used green beauty products before, these measures are designed to assess their intention to re-purchase. Cronbach's alpha for these three items altogether is a satisfactory level of 0.80.

#### *Reliability and validity of measurements*

Harman's single-factor test has been applied to address the issue of common method when using single-source data (Jarvis et al., 2003). After loading all of the research variables into an exploratory factor analysis, the unrotated factor solution indicated a single factor accounted for 34 percentage of the total variance, which suggests the problem of common-method bias does not exist for this dataset. Further, Cronbach's alpha was used to evaluate the internal consistency reliability. With only *Quality Value* being slightly below the internal consistency threshold of 0.7, the reliabilities of the measurement model were acceptable. In addition to the reliability assessment, convergent validity and discriminant validity were also tested. With all average variance extracted (AVE, i.e. the average variance shared between a construct and its indicators) greater than 0.6, it suggested a decent convergent validity of measurement models (Fornell and Larcker, 1981). By further examination of the cross-loadings of items, the study confirmed the discriminant validity of reflective measurements. Detail correlation matrix of research factors is presented in Table 2.

	Mean	Std. Dev	EC	SV	QV	PV	EV	RI
Environmental Concern (EC)	5.76	1.14	1.00					
Social value (SV)	4.36	1.33	.24	1.00				
Quality value (QV)	5.61	0.77	.45	.20	1.00			
Price value (PV)	4.76	1.15	.40	.27	.48	1.00		
Emotional value (EV)	5.16	0.99	.46	.47	.35	.29	1.00	
Repurchase intention (RI)	5.00	1.20	.51	.35	.53	.64	.44	1.00

Table 2. *Correlation matrix of research factors*

## RESULTS

After the measurement items have been purified and tested with reliability and validity, we calculated un-weighted indices of each of the six latent variables for subsequent regression analysis for hypotheses testing.

Model 1 as illustrated in Table 3 examines the impact of socio-demographics on repurchase intention. Age, income, education level are included as ordinal measures and gender and employment as categorical variables. Model 1 has an insignificant F-value of 1.41 and a very low R-square of 0.06 which indicates that the above five socio-demographic variables combined explain merely 6% of consumers' Innovation, Entrepreneurship and Digital Ecosystems



intention to repurchase GBP. It is apparent that repurchase intention of GBP cannot be predicted by using only socio-demographic variables. This is consistent with the findings of previous studies that green consumer cannot be fully profiled with only socio-demographic characteristics (Akehurst et al., 2012; Diamantopoulos et al., 2003; Fisher et al., 2012; Park et al., 2012).

Model 1	Repurchase Intention		
Socio-demographics	Coefficient	(sig.)	VIF
Gender	0.14	(0.14)	1.05
Age	-0.11	(0.39)	1.72
Employment	0.09	(0.54)	2.33
Income	-0.21	(0.23)	3.27
Education	0.01	(0.88)	1.06
Model summary			
R-square (Adjusted R-square)	0.06 (0.02)		
F value (sig.)	1.41(0.23)		

Table 3. *Impacts of socio-demographic characteristics on repurchase intention*

In Model 2 as shown in Table 4, our research constructs are the predictor variables of Repurchase Intention. The variance inflation factors (VIFs) are considerably low (<2) suggesting little concern of multicollinearity (Hair et al., 2009). Model 2 has a significant F-value of 30.96 (sig < 0.01). Consumers' environmental concern and perceived value of GBP together have substantially higher predicting power (55%) on repurchase intention.

To interpret individual impacts more specifically, Price Value is the strongest predictor with standardised coefficient of 0.42 (sig < 0.01) followed by *Quality Value* (coefficient = 0.19, sig = 0.01) and *Environmental Concern* (coefficient = 0.18, sig = 0.02). The results show strong support for Hypothesis 1, 3 and 4. Nevertheless, *Emotional value* (coefficient = 0.12, sig = 0.11) and *Social value* (coefficient = 0.10, sig = 0.13) both have positive impacts on repurchase intention, but significance levels are greater than 0.05 which suggest Hypothesis 2 and 5 are thus not supported.

Model 2	Repurchase Intention		
Research Construct	Coefficient	(sig.)	VIF
Environmental concern	0.18	(0.02)	1.50
Social value	0.10	(0.13)	1.32
Quality value	0.19	(0.01)	1.48
Price value	0.42	(0.00)	1.42
Emotional value	0.12	(0.11)	1.57
Model summary			
R-square (Adjusted R-square)	0.55 (0.53)		
F value (sig.)	30.96 (0.00)		

Table 4. *Predicting repurchase intention with environmental concern and consumer perceived value*

## DISCUSSION

This study investigates the factors that influence consumers' repurchase decisions on green beauty products. Based on the Theory of Consumption Values, five hypotheses are proposed and only three of them are supported. The result supports the hypothesis that respondents with more environmental consciousness are more likely to purchase GBP again. This result furthers the findings from many previous studies that, even for highly-involved products like fashion, the awareness of environmental problems and their negative impact not only serves as an important factor to initiate consumers' first purchase (Chen and Chang, 2012; Gam, 2011), but continue to motivate consumers to repurchase green products.

The hypotheses of quality value and price value have also been supported. Amongst all, price value is the most critical dimension in consumption value pertinent to consumer intention to repurchase. This indicates that, even for green products that are beneficial to the earth, price still needs to be justified in accordance with consumers' perception of worth. This finding is also consistent with that from the previous research that most people are not prepared to compromise on product functions for a better environment (Mondelaers et al., 2009). Even for people who claim to be environmentally friendly, these functional characteristics remain critical influencing their post-purchase behaviours of green products (Lin and Chang, 2012).

The remaining two hypotheses assuming that social value and emotional value also positively influence repurchase intention are not supported. Previous research suggests that green product has the ability to demonstrate socially, especially for female consumers, the owners' voluntary willingness and capacity to incur the cost of compromising one's benefit for the greater good of the environment (Griskevicius et al., 2010; Koller et al., 2011). Yet similar result is not found for GBP whose consumers are mainly female and its consumption would indicate one's altruistic gesture of changing everyday life to help protecting the environment. Reasons for this negative result could be twofold. Firstly, little physical elements in GBP could demonstrate publicly its nature of being environmental friendly. It is found that people tend to purchase green products when the product choice can be observed and influence one's reputation (Griskevicius et al., 2010). Comparing to other product categories like hybrid car or green fashion, the use of which can signal their greenness via, for example, product design, the application of GBP leaves not visible traces for the users to display their product choice and their courtesy. Secondly, the pressure and/or negative reputation consumers experience may not be as much when using conventional beauty products. In contrast to some product categories, e.g. fashion industry uses cheap chemical dye that pollutes water resources or fuel-powered vehicles contributes to air pollution, there are considerably less reports about how traditional approach of manufacturing beauty

products has created appalling consequence to the environment or to the counterparts in the supply chain. In other words, it may not be as widely known as to how the act of GBP buying and consuming can contribute to improving environment sustainability. In short, together these factors may provide little motivation and risks for consumers to continue purchasing GBP for social reasons.

Perhaps most surprisingly, emotional value is found in this study to have no significant impact on consumers' intention to continue purchasing GBP. Emotional value though has been highly emphasised in terms of its importance to attract first-time purchase of green products. Our results on the contrary show that such pertinence diminishes substantially when it is about repurchase intention. In this research it is assumed that consumers would have high emotional involvement for beauty products, similar to what they may have for fashion products. Also, people who have purchased GBP previously are assumed to already have experienced the production functions and are more likely to be receptive to the "Feel Green and Feel Good" marketing strategy. This finding suggests the contrary that unlike fashion, consumers may see GBP as a common everyday product and thus invest little emotional involvement. Therefore, corresponding to, e.g., Johri and Kanokthip (1998) and Hartmann et al. (2005), that product performance is still one the key determinant even for GBP.

It is also worth noting that socio-demographic characteristics cannot be used to predict consumer intention to repurchase GBP. They may not be the appropriate variables for segmenting GBP consumers. Diamantopoulos et al. (2003) indicate that such socio-demographic variables may be useful to profile environmental knowledge and attitude but not as successful with green consumption behaviours. Socio-demographic segmentation is not an effective option to profile green consumers or predict purchase intention.

## IMPLICATIONS AND FUTURE RESEARCH

This study set out to understand how consumers' repurchase intention of GBP is affected by their environmental concern and perceived value. The findings suggest that price value is nevertheless central when it comes to the decision of buying GBP again. This will be a challenge for companies who offer GBP. The higher price is common to all green product categories, e.g. organic food, green clothing, owing to their ethical sourcing of ingredients. Further, it is found that emotional value does not play a role as significant as expected. Such finding provides an alternative perspective to GBP marketers as to whether they should use the same marketing approach to encourage repurchase. For future research, it would be interested to conduct a comparison study that focus on respondents who have no previous experiences with GBP purchase and understand whether the relationships between their perceive value and purchase intention would be similar to the findings of this study.

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## BUILDING ENVIRONMENTAL AWARENESS THROUGH MASS MEDIA IN CHILDHOOD

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### ABSTRACT

Nowadays, people go about and live their daily lives often guided by the Mass Media. This fact can easily be observed if we follow the daily activities of both adults and children. If we examine the potential existence of a relationship between the information conveyed by the MM and the stimuli they provide to adults and children, it becomes evident that there is some kind of effect. The aim of this paper is to study the attitudes and perceptions of primary school students in the region of Evros concerning a range of issues, in relation to the media they use to receive information both regarding their daily habits, and especially regarding the environmental issues that concern them, in order to determine which characteristics can help raise environmental awareness. A structured questionnaire was used to achieve the goals of the survey, which was completed by 412 students in the 5<sup>th</sup> and 6<sup>th</sup> grade of primary school, during the period May-October 2014. The main results show that their key interests relate to entertainment and pleasure, for which they primarily use the TV and the Internet, in order to find answers to their questions or address their expectations; nevertheless, they are not greatly satisfied with the programmes on TV. The environmental issues that interest them are mainly related to water, animals and the sea, and these concerns are usually addressed by their school or family environment.

**Keywords:** *Environmental communication, natural environments, mass media, children's environmental perceptions.*

### INTRODUCTION

In modern times, the key reasons for the limited awareness of environmental problems have been linked to the overall values, attitudes and beliefs that have been adopted with regard to wealth and modern technological and scientific achievements (Catton and Dunlap, 1980 Trobe and Acott, 2000), which are daily displayed and cultivated by the two most fundamental social institutions, family and

education, and through certain stimuli provided by the mass media. A two-way relationship exists between mass media and the public. It could be argued that the mass media not only decide to a great extent about the information we receive in general, by providing the necessary knowledge about the images related to our world, but also affect the way in which we evaluate and appraise this information (Papathanasopoulos et al., 2014). Moreover, mass media involves businesses whose primary objective is to make a profit and not provide information, entertainment or education, which is why they are subject to certain restrictions. More specifically, in order to protect and increase their ratings or number of readers, and therefore their profits, they choose to convey messages, which are deemed to have a higher resonance with the targeted audience. Therefore, it is easily understood that the viewers' degree of environmental awareness is highly likely to affect the content, form and frequency of the environmental information provided. Hence, it is the responsibility of these institutions to transmit those values to young children that can lead to the adoption of an environmentally responsible attitude, and eventually create personalities with an established environmental awareness. Thus, through the creation of a demanding and environmentally aware young audience and its consistent pressure, the mass media will be forced to readjust its policies concerning the environment, and environmental information in general.

The time devoted by modern students to mass media and the close bond they develop with the latter, in combination with the allure of image and sound, render mass media highly attractive and important for the transmission of the appropriate stimuli which will lead through entertainment, emotion and speculation to environmental awareness, as described above. Through the promotion of films relevant to environmental issues, educational programmes, conversations concerning the environment and the diffusion of environmental information, mass media has the power to contribute to the environmental awareness of the audience (Skanavi, 2004) in general, and of students in particular.

The above observations highlight the necessity to examine both the audience's and, in this particular essay, the students' daily habits and attitudes, as well as the policies utilized by the mass media to provide information to this specific age group on environmental issues. In other words, this essay aims to scrutinize the students' various perspectives and attitudes regarding a number of issues, in relation to the media through which they are informed about their daily habits and mainly about the environmental issues that concern them, so as to determine and identify all the characteristics that contribute to raising environmental awareness.

## **LITERATURE REVIEW**

The extensive interest that environmental problems have received in modern days and the necessity for immediate action in this field, require an examination of the concept of children's environmental

awareness, since this age group is the pillar supporting our global future and our guarantee for a sustainable planet. It is generally accepted that the primary concern of our society should be to raise young citizens with the right knowledge, values and attitudes, who will resist displaying apathy towards the environment and will be led to make certain choices, which will render them environmentally responsible citizens. Environmental awareness, as a trigger for behavioural change and for the identification of factors that contribute to the transition from intention to behaviour, has regularly been the topic of numerous studies. One of the models that explains the influence of people's behaviour towards environmental problems is "the value-belief-norm theory" (Stern et al., 1993; Dietz et al., 2005; Berenguer, 2010). According to this theory, people take action regarding environmental problems when they believe they can protect environmental aspects that are important to them (Berenguer, 2010). When asked today, however, what aspect they evaluate as being of high importance to their lives, the effect of mass media and the issues it chooses to reveal and highlight is a decisive factor. Due to its range, regularity and repeatability, mass media has become the most important information system in today's society. It has the potential to affect a person's ultimate choice concerning a subject, since it is able to reveal and present the numerous choices of action offered to him as regards this subject, whilst favouring or decreasing the importance of certain actions accordingly (Skanavi, 2004).

Closely connected to people's daily habits and the meaning of awareness are the notions of values and attitudes. Values represent the way a person evaluates different people, facts and situations. Values and attitudes do not have the same meaning, as values are more general, abstract and deeper-rooted in the individual self-concept, thus harder to change (Schwartz, 1992; Schwartz, 1994; Feather, 1995). On the other hand, numerous definitions of the term "attitude" are given in the relevant bibliography. Some view the term in a uni-dimensional manner, as the feeling connected to specific intelligible objects (Greenwald, 1989), a connection with the human soul's "incensive" aspect (*thymikon*). Others see it multi-dimensionally, with the term "attitude" used to describe predispositions of reactions to certain stimuli, involving the emotional, cognitive and behavioural dimension (Rosenberg and Hovland, 1960). An environmental attitude can thus be defined as a learned predisposition to respond in a consistently favourable or unfavourable manner with respect to the environment (Shanahan et al., 1999). However, in all definitions, a basic element is the notion of evaluation and the discrimination between the emotional, cognitive and behavioural consequences of attitudes.

On the other hand, positive attitudes towards the environment, as a result of environmental education and information in general, are directly connected with awareness, without however guaranteeing the adoption of a pro-environmental or responsible environmental behaviour. In other words, awareness, according to Newhouse (1990), entails that the individual is knowledgeable, awake, alert and informed



about environmental issues, but does not necessarily take relevant action. Many other scholars (Hungerford and Volk, 2003; Hsu 2004) arrive at the same conclusion, and emphasize the distance between the notions of 'awareness' and 'action', since their relationship is neither linear nor deterministic. This statement has led to a study of the factors, which cause the transition from 'intention and positive disposition' to 'responsible environmental behaviour', which has resulted in the expression of numerous theories and models, the most predominant being those of Hungerford and Volk (1990) and of Ajzen (1991). In these theories, the importance of incorporating values, attitudes and one's way of life in the decision-making process, along with the importance of public information on environmental problems, are noted.

Greek researchers have dealt with the role of television in the education of children, the structure and content of Greek children's television programmes, the viewing habits of schoolchildren aged 9-13, of primary school students aged 5.5-6.5, and of preschool children (Pantzou et al., 1988; Dakounakis, 1996; Diamantopoulos, 2000; Doulkeri, 1994, Vryzas, 1997; Oikonomidis, 2005; Diamantaki et al., 2001; Kourti, 2005). Due to the fact that, even nowadays, along with an anthropocentric perception of nature, students' perceptions are dominated by a utilitarian relationship between humans, plants and animals (Lazarou and Papadopoulou, 2013), it is interesting to observe the way in which these are presented on TV and also whether and how a pro-environmental attitude is accordingly cultivated. All of the above acquire a particular significance if we take into account the conclusions of Nila & Kotsis, (2007) regarding the students' lack of familiarisation with several ecological terms, and their inability to distinguish between the causes and effects of grave environmental problems. Furthermore, the knowledge of the environment which is provided by the mass media is of major importance, since it is regarded as fundamental for the construction of an environmentally aware society, and for the cultivation of positive values and attitudes towards the environment in society (Ivy et al., 1998).

## RESEARCH METHODOLOGY

For the collection of data regarding the perceptions and attitudes of students in the 5<sup>th</sup> and 6<sup>th</sup> grade of primary school in the prefecture of Evros, a questionnaire with closed questions was used. This research constitutes part of a larger research project for which the questions were divided into five categories, namely: 1) student activities-interests and the role of parents, 2) information – communication media, 3) student knowledge of environmental matters, 4) habits of the students and their families and 5) demographic characteristics of the students and parents. In order to achieve the goal of the present research, only part of the above-mentioned questions were used. The sampling method used was cluster sampling. The sample included seventeen (17) primary schools in the Prefecture of Evros, and 412 questionnaires were completed by 5<sup>th</sup> and 6<sup>th</sup> grade students. Regarding

the required permission to conduct the research, the researchers followed the guidelines provided by the Pedagogical Institute (Pedagogical Institute, 2004). The collection of data was carried out during the period May-October 2014. Cronbach's  $\alpha$  coefficient and Friedman's non-parametric test were used for the data processing. In addition, the researchers used the statistical programme SPSS. Friedman's test and Cronbach's  $\alpha$  coefficient were applied to the multidisciplinary variables, namely "interests", "the media through which you obtain information on issues of interest", "types of TV programmes you watch", "topics about which you surf the Internet", "communication media you use to get information on nature" and "which environmental issues do you find most interesting", which were measured using the Likert scale from 1= never to 5= always.

In the survey, Cronbach's  $\alpha$  coefficient is used to identify the internal consistency of the questionnaire, i.e. whether the data have the tendency to measure the same fact. It expresses the squared correlation between the score (observed) that a person is assigned on the given scale and the score that they would have obtained (true) if they had been asked about all issues (Siardos, 1999). Friedman's test is used to compare the values of three or more correlated groups of variables. The distribution of Friedman's test is a  $X^2$  distribution with (df)  $df = k-1$  degrees of freedom, where  $k$  is the number of groups or samples. This test classifies the values of the variables for each subject separately and calculates the mean rank of the classification values for each variable (Freund and Wilson, 2003; Ho, 2006).

## RESULTS

As regards the students' demographic characteristics, there were a few more boys (52.4%) than girls, and the 6<sup>th</sup> grade students (50.5%) exceeded the 5<sup>th</sup> grade students by one percent. As for their parents, over half the fathers were employees (public 33.3% and private 19.2%), self-employed (27.7%) and farmers (10.8%), while less than half the mothers were employees (public 26.2% and private 18.7%) and 28.4% were housewives. Finally, almost one in three fathers were university graduates (29.4%) and also one in three were secondary school graduates (31.1%); there is a similar pattern for the mothers (31.1%). The classification of the students' interests was the result of the application of Friedman's test. After the application ( $N=412$  Chi-Square=429.818  $df = 6$  Asymp. Sig = 0.000) (Table 1) and with Cronbach's  $\alpha$  coefficient being 0.771, we see that the main subject of the multidisciplinary variable "students' interests" is "entertainment / pleasure" with a mean rank of 4.86. Second in the classification of interests is "personal issues", then "sports", with "educational matters related and unrelated to school" coming fourth. As expected, they are not interested in issues related to finance and nature. They are at an age where they have exactly the opposite interests to adults, since, according to Tsifodimou et al., (2011), the main problems currently concerning Greek citizens are the economy, unemployment and environmental downgrading.

	Mean rank
Entertainment / Pleasure	4.86
Personal issues (your family, friends etc)	4.71
Sports	4.5
Educational matters related and unrelated to school	4.17
Nature	3.65
Social (on the relations of the people around you – between them and with you)	3.64
Finance	2.47

Table 1. Application of Friedman's test regarding "students' interests"

	Mean Rank
Discussion with family/friends/fellow students	8.74
Education – School	8.42
Internet	7.95
Television	7.61
Books – Encyclopedias	6.09
Events	6.04
Information leaflets	5.03
Magazines	4.70
NGOs (WWF, Make a Wish Greece, etc)	4.44
Radio	3.79
Newspapers	3.20

Table 2. Application of Friedman's test on "the media through which you obtain information on issues of interest"

As regards the media through which they obtain information on issues of interest (Cronbach's  $\alpha$  coefficient 0.732), they mainly involve interpersonal communication methods, such as discussions with friends, with the family and at school. In second place, we find mass media, namely the Internet and TV. The final places are taken up by NGOs, the radio and newspapers ( $N=412$  Chi-Square=1,600.546 df = 10 Asymp. Sig = 0.000) (Table 2). People depend on mass media for information, entertainment, even to communicate, although their perceptions are mainly shaped through interpersonal communication and their contact with their immediate social surroundings; nevertheless, mass media constitute the most frequently used, direct or indirect source of information (Papathanasopoulos et al., 2014).

	Mean Rank
Comedy series	12.66
Children's films	12.44
Comedy films	12.40
Action films	12.35
Fiction films	12.35
Children's programmes	11.57
Sports programmes	10.94
Old Greek films	10.49
TV games / Quiz shows	10.21

Documentaries	10.00
Entertainment programmes	9.98
Historical series / films	9.59
Police stories	8.81
Social series / films	8.06
Horror films	8.05
The news	7.89
Environmental programmes	7.81
Information programmes	7.55
Drama series	6.88

Table 3. Application of Friedman's test on "types of TV programmes you watch"

Their preferences as regards types of TV programmes (Cronbach's  $\alpha$  coefficient 0.841) are dominated by comedy series and then films (children's, comedies, action and fiction films). At the bottom of the list we find drama films, information programmes and environmental programmes ( $N=412$  Chi-Square=1,017.384  $df = 18$  Asymp. Sig = 0.000) (Table 3). Through television, children enter a part of the adults' world very early on, and its allure lies in the variety of programmes and films. Television ranks high in their preferences compared to other activities and "eats away" at their valuable time (Vryzas and Tsitouridou, 2002) nevertheless, its power can be put to good use by the school in an educational way, and thus restore its lost value. As regards children's preferences regarding specific types of programmes, the AGB data for 2005-2006 shows that young viewers watch children's programmes, but also: Greek comedy films are one of their top choices, with TV games, "light entertainment" and reality shows also high on the list, while Greek and Latin American soap operas are also popular with many children. However, the minor fluctuations noted in recent years, do not reverse the overall trend (a count of 165 or 161 minutes of TV time per day), which is rising. What is of concern is the fact that many children are often "glued" to a screen (TV or computer) watching DVDs or playing computer games – and that this time is not taken into account, at least by the systems used at present. In other words, the adoption of new technologies has not changed the TV habits neither of children nor of adults (Tziantzi, 2007).

	Percentage (%)
Don't know	2.7
Not at all	1.2
Slightly	11.9
Quite	41.5
Very	24.3
A great deal	18.4
Total	100.0

Table 4. Level of satisfaction with TV programmes

Table 4 presents the perceptions of students regarding their satisfaction with TV programmes: 42.7% say they are "very" or "a great deal" satisfied with them, while 41.0% that they are "quite" satisfied with the programmes shown on TV. Over one in ten students (13.1%) state that they are "slightly" or "not at all" satisfied with them.

	Mean Rank
Entertainment / Pleasure	5.26
Sports	4.46
Educational matters related and unrelated to school	4.38
Nature	4.06
Personal issues (your family, friends etc.)	3.85
Social (on the relationships of the people around you – between them and with you)	3.57
Finance	2.42

Table 5. Application of Friedman's test on "topics about which you surf the Internet"

Following the application of Friedman's statistical test (Table 4), it is observed that the main topic of the multidisciplinary variable "topics about which you surf the Internet" is "entertainment/pleasure", with a mean rank of 5.26 ( $N=412$  Chi-Square=506.643 df = 6 Asymp. Sig = 0.000) (Table 5), with Cronbach's  $\alpha$  coefficient being 0.698. Students also surf the Internet for issues related to sports, education and nature. As regards the latter and the environment in general, they most probably receive stimuli from school to do so, rather than being driven by their own concerns. According to a study by the University of Athens, almost the majority of children in the 5<sup>th</sup> and 6<sup>th</sup> grade of primary school are members of at least one social networking site, while 52.0% say that they know more about new technology than their parents. Furthermore, students mention that they first came into contact with the Internet aged 6.2 years, use facebook for two hours on a regular school day, 20.0% use a mobile phone, 22.0% use the Internet daily in their bedroom, 39.0% use the Internet daily to communicate and for social networking, and 8.5% use it daily to study at home (Bibi, 2016)

	Mean Rank
Education – School	8.94
Television	7.81
Discussion with family/friends/fellow students	7.66
The Internet	7.58
Books - Encyclopedias	6.18
Events	5.79
Information leaflets	5.17
NGOs (WWF, Greenpeace, etc)	4.75
Magazines	4.69
Radio	3.98
Newspapers	3.46

Table 6. Application of Friedman's test on "communication media you use to get information on nature"

As regards the communication media they use to get information on nature (Cronbach's  $\alpha$  coefficient 0.791), they primarily get this information from school, TV, their family and friends, and from the Internet. On the other hand, they do not receive information, as expected, from newspapers, the radio

or magazines, which are not as accessible to them and are also not seen as suitable tools (N=412 Chi-Square=1,396.871 df = 10 Asymp. Sig = 0.000) (Table 6).

	Mean Rank
Water	7.67
Animals	7.45
Sea	7.41
Litter – Recycling	6.30
Forest	6.17
Air pollution	6.17
Plants	5.92
Energy	5.61
Climate change	5.55
Soil – Ground	4.28
Insects	3.46

Table 7. Application of Friedman's test on "which environmental issues do you find most interesting"

Of the topics on nature that mainly concern students (Cronbach's  $\alpha$  coefficient 0.878), water is the primary topic, followed by animals, the sea, litter-recycling and the forest. On the contrary, in the last places we find insects, soil and climate change (N=412 Chi-Square=845.731 df = 10 Asymp. Sig = 0.000) (Table 7). The students' region is dominated by water and characterized by numerous sites of natural beauty, as well as areas of particular natural importance, such as the Evros river delta and the Forest of Dadia. In fact, on several occasions, the river Evros, which is second in size to Danube in Southeast Europe, and the main river of the Balkan Peninsula, causes flooding in the region and large-scale disasters that affect farming and animal breeding, as well as residential areas.

## DISCUSSION

One of the primary results provided by the present paper is the observation that nature and environmental issues do not feature amongst the main interests of students, since they come out low on their list of preferences. This classification of their interests is particularly disheartening as regards their support of pro-environmental movements, since, according to Schwartz (1977), values, beliefs, and personal norms, feelings of personal obligation that are connected to one's self expectations, constitute the base for general movement support. For Schwartz (1977) a key role is played by personal norms and altruistic values, that mobilize a person to take part in any form of social movement, while Stern and Dietz (1994), Stern et al., (1995) view the environmental movement as one example where the views expressed by Schwartz (1977) can be applied. In developing their theory concerning people's involvement in pro-environmental action, Stern et al., (1999) also consider the above-mentioned concepts, namely personal norms and altruistic values, as having a core value for people to comprehend that environmental conditions "pose threats to other people, other species, or the biosphere and that actions they initiate could avert those consequences". Therefore, while examining

the attitudes and perceptions of primary school students in the region of Evros, it is observed that there is limited interest in undertaking pro-environmental actions, possibly due to the stimuli and information the students receive or do not receive, concerning nature and the environment; it is noted after all, that their preferred types of TV programmes include comedy series and then films, while, on the other hand, we find information and environmental programmes at the bottom of their list. In fact, the relevant data are not particularly encouraging as regards the development of environmental awareness, since Bartkus et al. (1999) claim that objective knowledge has been proven to be closely linked to environmental behavior.

High on the students' list of preferences we find the Internet and TV, through which they obtain information on issues of interest. Thus, the influence of these particular media on the specific age groups is documented, along with the importance of how the former formulate and present environmental issues, when they put forward the aspects of various environmental problems and risks, and reveal the numerous choices of action offered to individuals as regards these subjects, so that the relevant risks may be averted (Skanavi, 2004).

Students in this particular region are concerned about water on the one hand, which they place high on their agenda, while climate change does not concern them greatly, since they live in a region where two rivers (Evros and Ardas) form part of their daily life, and an integral element of their contact with nature. According to Barraza (2004), children do not only tend to remember but can also understand and explain environmental terms when they are related to their own experiences; on the other hand, Nila and Kotsis (2007) state that the majority of students are not particularly well versed in several ecological terms and relations, and are extremely confused about the causes and effects of environmental problems, such as climate change. Along the same lines, and in relation to the messages provided by the media, Nitz (2000), expresses the view that public awareness is raised when people believe that the related message directly concerns them, which means that the children's place of residence and own experiences affect the way in which they view environmental issues or concerns.

## CONCLUSIONS

The present study is an attempt to examine the attitudes and perceptions of students regarding their daily habits and the media they tend to use to obtain information regarding their everyday needs and the environment, in order to arrive at the most suitable strategies for raising environmental awareness. One of the main conclusions shows how the students' interests differ from those of the adults. More specifically, the former mainly focus on entertainment and pleasure, as well as personal issues, while not being at all interested in issues related to finance. They are not particularly interested in nature, about which they mainly get information through the Internet. Nevertheless, the fragmented

information provided by the Internet can often be unreliable and misleading. Thus, education must contribute decisively at this point, since having knowledge and correct information concerning environmental issues is strongly linked to raising awareness around these issues.

As regards television, it is observed that students are not very satisfied with the quality of its programmes. However, when they decide to watch television during their free time, they mainly choose to watch comedies, children's films and television series; documentaries and environmental programmes are at the bottom of their list of preferences. At first, what needs to be examined is the quality of the environmental films and programmes, and to seek those elements that would make them more attractive and appealing to students. Taking into account the student's preference for comedy films and programmes, and in order to raise environmental awareness, TV channels should try and convey messages with an environmental content through their programmes, but present them in a comical manner where possible, in order to achieve the maximum results.

Children who live far from urban centres do not face the same environmental problems, and therefore have different priorities. Therefore, the stimuli they receive mainly come from their family environment, and the problems and natural assets of their region. The main source of information on environmental problems is their family and school, whereas television and the Internet are not the main sources of information in this case. Therefore, for the school to be able to encourage a positive attitude towards the environment and raise awareness among students regarding environmental issues, it should incorporate in its educational process the use of mass media and films of a comical or entertaining nature, since they attract the interest of students, and are at the top of their list of preferences.

Finally, it is suggested that this research be repeated with face-to-face interviews and a semi-structured questionnaire that could highlight new data to be examined or clarify ambiguous perceptions. Similar studies should not only focus on students but also their parents, since they influence the perceptions and attitudes of their children; such a method however requires specialized knowledge, experience and quite a lengthy period of time. Moreover, it would also be interesting to expand the present study in order to cover the population of neighbouring regions, where a significant differentiation exists regarding religious and cultural customs.

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## A STRUCTURAL EQUATION MODELING APPROACH TO FACTORS THAT INFLUENCE THE GOAT SECTOR: THE CASE OF GREECE.

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### ABSTRACT

The aim of the present paper is to examine the factors that influence the gross margin and the productivity of goat sector in Greece. The paper uses structural equation modeling (SEM) which is a superior statistical technique to multiple regression used to determine the effect of financial and non-financial factors on the productivity of goat farmers in Greece. The research data was collected using questionnaires and through personal interviews with the "heads" of the goat farms during the years 2014-2015 in the Municipality of Thessaloniki. This model hypothesizes that gross margin (Y) is predicted by labor in hours (X<sub>1</sub>), loans (X<sub>2</sub>), feed in kg (X<sub>3</sub>), fixed capital expenditures (X<sub>4</sub>), education level (X<sub>5</sub>), age of the head of the goat farm (X<sub>6</sub>). Results show that labor in hours, kilos of feed and fixed capital expenses have a direct contribution to gross margin. Moreover, fixed capital expenses have a strong correlation with labor and feed. Education level and fixed capital expenses have an indirect effect in gross margin.

**Keywords:** *Goat farming, Structural Equation Modeling (SEM), Agricultural Finance, Managerial practices*

### INTRODUCTION

Greece is a country with a long tradition in animal breeding, particularly involving small ruminants. Within its territory goat farming is an important livestock industry. It employs 260.500 families and its share in the gross value of the total animal production is about 16% (NSSG, 2011). A large proportion of goat milk and meat production takes place in mountainous and disadvantaged areas in Greece, which are characterized by poor resources in comparison to other rural areas and remoteness from main centers of population. Livestock production, which is largely extensive, is one of the main economic activities in such areas and is considered to be a potential option for rural development.

Greece holds the fourth position in world production of goat's milk, while holding the second position among the EU countries, after France. The total number of goats in the country is around 4.8 million heads (FAO, 2009). The number of livestock farms in Greece is very important and focuses primarily on Macedonia, Thessaly and Thrace.). According to FAO (2011), the number of milked adult female goats in Greece is 3.350.000.

Goat farming has a major financial impact, due to: a) the production of large product quantities of a high biological and dietary value, b) the fact that it provides employment and an adequate stable income to a large number of animal breeders, and c) the creation of added value through the processing and trading of goat's meat and milk.

Despite the high productivity and high quality of products, the goat industry shows low competitiveness due to high production costs compared to other EU countries (Vlontzos et al., 2006; Aggelopoulos et al., 2009). This fact implies the reduced efficiency and the low competitiveness of the industry.

The aim of the present paper is to examine the factors that influence the gross margin and the productivity of goat sector in Greece. The paper uses structural equation modeling (SEM) which is a superior statistical technique to multiple regression used to determine the effect of financial and non-financial factors on the productivity of goat farmers in Greece.

## **MATERIALS AND METHODS**

The research data were collected by using questionnaires and through personal interviews with the "heads" of the goat farms during the years 2014-2015. Stratified random sampling was used to determine the sample (Siardos, 2005), with the regions of Greece representing the strata being studied. The selected research area was the geographical region of Thessaloniki, where a large number of goat farms are concentrated. The variety of breeding conditions in this region allows a generalization of the research output for the whole country, with no major deviation from reality.

The empirical data are analyzed using Structural Equation Modeling (SEM). Structural Equation Modeling, though stemming from econometrics, is increasingly applied in various disciplines such as psychology, sociology, political science, education, and in business-related disciplines like marketing, strategy, and management accounting. Generally, Structural Equation Modeling is defined as "a class of methodologies that seeks to represent hypotheses about the means, variances, and covariances of observed data in terms of a smaller number of structural parameters defined by a hypothesized underlying model". A structural equation model consists of (a) the measurement models, which link the observed variables to the latent variables, i.e. to the constructs; and (b) the structural part, which links the latent variables by using systems of simultaneous equations.

Structural Equation Modeling provides estimates of the strength of all the hypothesized relationships between the constructs in theoretical models, by comparing the model to the empirical data. This comparison is accomplished by means of fit statistics. The fit statistics can be used for accepting or rejecting the assumed relationships between the latent and observed variables (measurement models) on the one hand, and the latent variables (structural model) on the other.

The construction sequence of a SEM is to specify the model's structure and economic relationships, to estimate the parameters from historical data and to validate the model in a simulation routine (Labys, 1988). Supply, demand and price formation processes are represented by endogenous relationships that simultaneously interact to determine each other's values. The main goals of SEM are to understand the patterns of correlation/covariance among a set of variables and to explain as much of their variance as possible with the model specified (Kline, 1998).

The hypothesized SEM model for gross margin is presented as Figure 1 below. Within the context of structural modeling, exogenous variables represent those constructs that exert an influence on other constructs under study and are not influenced by other factors in the quantitative model. Those constructs identified as endogenous are affected by exogenous and other endogenous variables in the model. This model hypothesizes that gross margin ( $Y$ ) is predicted by labor in hours ( $X_1$ ), loans ( $X_2$ ), feeds in kg ( $X_3$ ), fixed capital expenditures ( $X_4$ ), education level ( $X_5$ ), age of the head of the goat farm ( $X_6$ ). The single-headed arrows represent causal relationships between explanatory variables and the dependent variable while doubleheaded arrows represent covariances between explanatory variables.

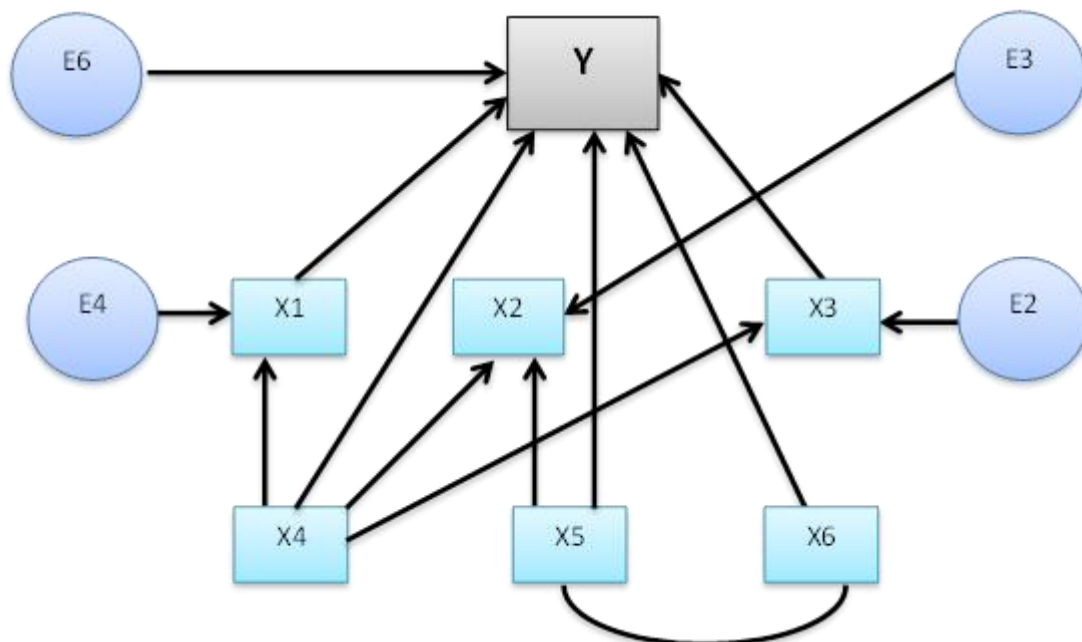


Figure 1. Impact of endogenous and exogenous factors in gross margin

Work is an integral variable to the operation of agricultural production. There are several definitions for the job. For example, Baumol and Blinder (2006), define as labor input in the production function

the number of hours. Holding other factors constant, the output increase as labor inputs growing. This leads to the first hypothesis of this study:

H1: Labor (hours) is assumed to be directly related to gross margin

Many researches have focused on the relationship between finance and economic development in the real economy. According to Coetzee et al. (2002), the lack of credit, has negatively affected the productivity of farms. Wynne and Lynne (2003) confirmed that lack of credit was hampering the development of smallholder farmers in South Africa but did not test the contribution of credit to farm performance. Chisasa and Makina (2013) using the Cobb- Douglas production function with the method of the Ordinary Least Squares (OLS) verified that at a macro level, credit makes a positive and significant contribution to agricultural production.

Sial et al. (2011), found that the improved seeds, fertilizers, biocides and the use of tractors play an important role in agricultural production and the market is directly affected by the availability of bank loans. Carter (1989) argues that bank lending affect agricultural production in two ways. First, encourage the efficient allocation of resources to use in an optimal way. Second, if the loan is used to purchase new technology would lead to increasing technical efficiency of farmers. Finally, according to Kumar et al., (2013), bank lending may affect the profitability and effectively improve farm management. Saleem and Jan (2011), considered the agricultural gross domestic product as the dependent variable, while agricultural production was the dependent variable from various financial institutions. The results showed that more than eighty percent of agricultural gross domestic product is due to total credit granted.

The Asfaw and Admassie (2004), found that through access to credit and loans, farmers are able to invest in new technologies. Gillespie et al. (2007) report that farmers who used most of their land for livestock adopted more innovations which improved the value of their land.

The Olagunju and Babatunde (2011), in their work on the effect of lending to farms, said that the lack of funding and lending result in low agricultural incomes, while the negative impact on poultry productivity was evident.

H2: Credit is assumed to be directly related to gross margin

The costs for the purchase of feed are one of the main factors that affect the profitability, because they represent a large part of the costs for the rearing of sheep and goats (Theodoridis et al., 2012). In another work, Tzouramani et al. (2011) report that the cost of feed is the main element of the total cost, reaching an average of the 48.03%.

H3: Kilos of feed is assumed to be directly related to gross margin

The suitable building and mechanical equipment is assumed to be directly related to gross margin (Aggelopoulos et al., 2011, Pavloudi et al., 2013).

H4: Fixed capital expenses is assumed to be directly related to gross margin.

Zuberi (1989), states that in order to increase productivity, government entities should focus on investment in human resources development with emphasis on the creation of primary and secondary agricultural schools training session.

H5: Education level (years) is assumed to be directly related to gross margin

According to Adesina and Baidu-Forson (1995), the age of the breeders, despite their experience, they are not innovate and take risks in order to increase the productivity of their holding. This is mainly due to lack of education. Younger age breeders are willing to receive education, which enhances their ability to respond to innovate (Asfaw and Admassie, 2004).

H6: Age of the head of farms is assumed to be directly related to gross margin

## DATA AND METHODOLOGY

To test the hypothesized model, the paper utilizes survey data from the region of Thessaloniki in Greece. A total of 120 goat farmers were surveyed using a structured questionnaire. A two-stage sampling technique was used by applying simple random sampling. The data were analyzed using the Statistical Package for Social Sciences (SPSS) Version 22.0. For the analysis data were converted into per animal for the better understanding of the results. This study utilizes structural equation modelling (SEM) using the Analysis of Moment Structures (AMOS) for robust results. Thus the study hypothesized that gross margin is predicted by labor in hours ( $X_1$ ), loans ( $X_2$ ), feed in kg ( $X_3$ ), fixed capital expenditures ( $X_4$ ), education level (years) ( $X_5$ ), age of the head of the goat farm ( $X_6$ ).

Table 1. Descriptive statistics

	Mean	Standard Deviation	N
Gross Margin	156.192	27.609	120
Labor (hours)	14.216	3.197	120
Loans	2.494	4.926	120
Feed (kilos)	248.813	74.699	120
Fixed capital expenses	37.706	10.788	120
Education level (years)	10.300	4.030	120
Age	46.241	15.928	120

## RESULTS

In Table 1, the average total valid observations summed to  $n = 120$ . An analysis of the descriptive statistics reveals that the mean score of gross margin is 156.192. Labor in hours were in the range of 14.216. Loans were in the range of 2.494 and the mean score of feed in kilos were 248.813. Fixed capital

expenses were in the range of 37.706. Moreover, the mean of the years of education level was 10.300 and the mean of the age of the head of goat farms was 46.241.

#### Pre-analysis testing

The suitability of the data set for the performance of factor analysis was tested via estimation of the Kaiser-Meyer-Olkin (KMO) measure of sampling adequacy. Chi-square =15,185 , df =10, sign = 0.125), characterized as “marvellous” by Kaiser (1974). It indicates that the data set can be used for the analysis and that the items will form specific factors (Hutcheson and Sofroniou, 1999).

#### *Best fit model for gross margin*

Maximum likelihood estimates.

The regression model that forms part of the SEM process confirmed that there are relationships between most variables, which are consistent with theory. The path coefficients presented in Table 2 are positive and significant at 5 per cent ( $p < 0.5$ ). It is observed that kilos of feed have a direct contribution to gross margin (0.126). Fixed capital expenses have also a direct contribution to gross margin (1,505). Labor has a direct contribution to gross margin (1,344). Finally, fixed capital expenses have a direct negative contribution to feed (-1, 491) and to labor (-0,069).

Table 2. Regression weights (group number 1 - default model)

			Estimate	S.E	C.R.	P
Gross Margin	←	Feed (kilos)	0,126	0,027	4,612	***
Gross Margin	←	Fixed capital expenses	1,505	0,195	7,708	***
Gross Margin	←	Labor (hours)	1,344	0,643	2,091	0,036
Feed (kilos)	←	Fixed capital expenses	-1,491	0,620	-2,405	0,016
Labor (hours)	←	Fixed capital expenses	-0,069	0,026	-2,628	0,009



Table 3. Indirect effects- Two tailed Significant (PC) (group number 1 - default model)

			Estimate
Gross margin	←	Fixed capital expenses	0,092
Gross margin	←	Education level	0,741

Table 3 shows the indirect effects to gross margin. Fixed capital expenses and education level have also an indirect effect in gross margin.

*Model Fit for SEM using goodness of fit indices.*

The main objective of this study was to test the relationship between gross margin and some exogenous and endogenous variables. All the indices in Table 3 confirm that all the sample data fit to the model.

Table 4. SEM model fit indices

Index	Recommended value	Remark
CMIN/DF	1.519	Very good
GFI	0.966	Very good
TLI	0.942	Very good
CFI	0.972	Very good
AGFI	0.904	Very good
RMSEA	0.066	Very good

The GFI and the AGFI were 0.966 and 0.904 respectively. The CFI was 0.972 and the RMSEA was 0.066. Moreover, TLI was 0.942 and CMIN/DF was 1.519.

## CONCLUSIONS

As shown from the results, labor in hours, kilos of feed and fixed capital expenses have a direct contribution to gross margin. Fixed capital expenses also have a direct contribution to labor and kilos of feed.

The competitiveness of goat farming in Greece can be improved either through a further increase in productivity, or by lowering the overall production costs. First of all, labor has a strong correlation with gross margin. That means, a rational valorisation of labor, mechanising production (e.g. installation of milking systems), a modernisation of the facilities for ergonomic purposes, should lead

to a reduction of this cost component. Moreover, in order to lead to the optimum exploitation of feed factor, a well-balanced and inexpensive feeding is recommended. The knowledge of animal feed contents in nutritious ingredients and their suitability as well as efficient mixing, feeding and storage facilities of animal feed should lead to the improvement of the used animal feed. Finally, modernization of building facilities and machinery were not designed rationally and they were based on limited data and misleading projections of the future, which finally led to an overestimation of their efficiency. Furthermore, the formal education enhances the ability of farmers to acquire, synthesize, and quickly respond to disequilibria, thereby increasing the probability of adopting a better management practices and reorganizing the production rates.

Additionally, the application of structural equation modeling can constitute a “guide” for goat farms for the provision of financial support, for an evaluation of the existing status and for gaining a competitive advantage in relation to other similar form of farms. Through structural equation modeling the investigation of the relationship between inputs and outputs is also possible. This allows the rational exploitation of inputs and outputs, the restructuring of the used inputs and the reduce of production costs.

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## ADOPTION AND USE OF SOCIAL MEDIA BY HOSPITALS' STAFF IN GREECE

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### ABSTRACT

Nowadays, a plethora of social media are available for health care professionals. Their use has change the way that health care professionals get informed, communicate with patients and raise awareness of public health-related issues. Despite evidence demonstrating their use by medical professionals, in Greece there is no research describing their adoption and use by hospitals' staff. The paper aims at filling this gap and investigates the attitudes of medical, nursing and paramedical staff of Greek hospitals towards the use of social media for personal and/or professional purposes. A questionnaire was distributed to four public Greek hospitals and was filled in by 188 respondents. The statistical analysis highlights that the most members of the hospital's staff are familiar with the social media although the individuals don't have equivalent computer competencies. They trust social media for personal use but they are rather cautious for professional use. Social media use by hospitals' staff in Greece for professional use is in the early adoption stage. Profession affects the attitude of the staff towards medical blogs whereas the age of the staff does not have statistically significant influence.

**Keywords:** *Internet, web 2.0, social media, health, hospitals' staff*

### INTRODUCTION

Social media is one of the defining phenomena of present times, reshaping the world. It refers to a set of *"tools, practices, and ideologies that emerged after the dot-com crash"* (Boyd, 2015 p.1) and comes in many forms, including blogs, wikis, social networking sites, forums, business networks, photo and video-sharing platforms, social gaming environments, microblogs and chat applications. The power of social media is the number of worldwide users. In 2016 the number of worldwide users amounts to 2.2 billion and is expected to reach some 2.5 billion by 2018 (Statista, 2016a). Facebook, Twitter and Instagram are of the most famous social media (Boyd, 2015). Facebook was the first social network that surpassed 1 billion registered accounts. On April 2016, Facebook had 1.65 billion monthly active users (Statista, 2016b) and five new profiles were created every second. Facebook users are active and consistent in their visits to the site as 1.09 billion of Facebook users log onto their accounts daily (Zephoria 2016).

Twitter is the most popular microblogging platform that allows users to share information via short messages of 140 characters. Currently, Twitter has more than 1.3 billion registered users (Smith, 2016) and more than 320 million monthly active users (Statista, 2016), who send 500 million tweets per day.

Adults use social media to access health information and according to Hughes (2010) nearly 80% of physicians who consult with patients online use social media channels to create or share medical content. Social media have broadly affected medicine and health professionals are increasing using them (Thackeray et al., 2012; McKee, 2013; van Muhlen & Ohno-Machad, 2012). Social media has changed the way that health care professionals get informed and communicate with patients (van Muhlen & Ohno-Machad, 2012). More explicitly, social media can be used to promote health behaviors, to inform, educate, and empower people about health issues and public health programs (Vance et al., 2009) to disseminate health promotion messages (Neiger et al., 2012) including emergency broadcasts during natural disasters (van Muhlen & Ohno-Machad, 2012) and information during meetings and conferences (Desai et al., 2011; McKendrick et al., 2012) to enhance professional networking and medical education (Chauhan et al., 2012; Farnan et al., 2013; Forgie et al., 2013; van Muhlen & Ohno-Machad, 2012) and to mobilize community partnerships and action on health issues (Thackeray & Hunter, 2010).

On the other hand, patients are using social media to find health information (Chretien and King, 2013), to communicate with doctors and other health care professionals (Fox, 2011; Ventola, 2014), to share their stories with “patients like me” and gain knowledge (Sarasohn-Kahn, 2008) and to find support through discussion groups and forums for illnesses (Fox, 2011). Thus, through social media patients are acting as sources of mutual support for others with similar ailments (Sugawara, 2012).

Internet penetration in Greece (63.2% of the population) is quite low compared to other European countries (Internetworldstats, 2016). Regarding the profile of the Greek Internet users, more than 6 out of 10 men are using the internet and the ratio is almost the same among women. However, there is a strong variation, between different age groups. More than 9 out of 10 Greeks aged between 16 and 24 are using the internet, compared to 1 out of 10 Greeks aged between 65 and 74. The variation between groups of different educational levels is also considerable: the internet is used by 9 out of 10 Greeks of high educational level, by 7 out of 10 Greeks of moderate educational level and by about 2 out of 10 Greeks of low educational level (Adamantopoulou, 2014). Half of the Greek population is registered on at least one social media platform and spend more than 80 minutes per day networking (Kassimi, 2015) Facebook is the leader and on 15 November 2015 had approximately 4.800.000 users in Greece (Internetworldstats, 2016). Blogs remain a steady force in the social media world, with 55.636 recorded sites. In 2015 the largest growth of all social media platforms has been recorded for Youtube: Greek Youtube user accounts have increased by 79 percent, making for a total of 634.050 users. The second

largest increase in subscriptions is awarded to Twitter. Twitter has 509.448 Greek accounts (Kassimi, 2015).

Social media applications have attracted considerable attention as a means to improve health care delivery (Hughes et al., 2009). Despite evidence demonstrating their use by medical professionals, in Greece there is no research describing their adoption and use by hospitals' staff. Thus, the paper aims at filling this gap and investigates attitudes and use of social media for personal and/or professional purposes by medical, nursing and paramedical staff of Greek hospitals.

## **USE OF SOCIAL MEDIA BY MEDICAL STAFF**

Previous studies have investigated the use of ICT and social media by medical staff and health settings in different countries around the world. The Health Care Social Media List includes health organizations that actively use social media. In the U.S.A 1599 health organizations are included in the list; 1301 organizations maintain a Facebook, 1080 a FourSquare and 1010 a Twitter account (Mayo Clinic, 2016). Thackeray et al. (2012) also reported social media use by U.S.A. state public health departments. According to their findings, 60% of the departments are using at least one social media application, 86.7% of them have a Twitter account, 56% a Facebook account, and 43% a YouTube channel. They made on average one post per day, primarily to distribute information. The most common topics related to staying healthy and diseases and conditions. Health departments have few followers or friends on their social media sites and very little interaction with audiences.

Loeb et al. (2014) investigated the extent to which urologists and urology trainees' use social media. 74% of the responders in the survey had an online social media account. The most commonly used social media platform is Facebook (93%), followed by LinkedIn (46%), Twitter (36%) and Google+ (26%). Doctors aged under 40 years use social media at a percentage of 83% while those over 40 use them less (56%). 28% of respondents use social media entirely for professional purposes. The authors also reported that social media, use in urology conferences has greatly expanded. McDonald et al. (2010) also claim that young doctors are active members of Facebook. They conducted a cross-sectional survey of the use of Facebook by recent medical graduates and found that 65% of the responders had Facebook accounts. A quarter of the doctors did not use the privacy options to restrict their information to 'Friends'. Information included some healthy behaviors but they also revealed personal information that might cause distress to patients. Motives, barriers and expectations of social media use of both health professionals and patients were examined by Antheunis et al. (2013). A considerable proportion (59.3%) of health professionals uses one or more social media. Specifically, 43.1% use Facebook, 38.6% use YouTube, 35.9% use LinkedIn, 22.9% use Twitter, and 11.1% use Hyves. A quarter of the health professionals use social media for health-related reasons. LinkedIn (70.7%) and Twitter (51.2%) are

used primarily, especially for communication with colleagues and Marketing. The main expectations of the respondents for future social media were: *“that they can decide for themselves when they use social media”* and *“that they can refer to their background information”*. Finally, the respondents who do not use social media think that it is inefficient and they lack of skills.

Gonzalez de Dios et al. (2011) surveyed 44 pediatricians (36 neuropsychiatric staffs and 8 residents) to investigate bibliographic information resources and social media use. They found that the four most used social media applications are YouTube (73%), Facebook (43%), Picasa (27%) and blogs (25%). They used two age groups (minus or equal to 34 and major or equal to 35 years) and analysis showed that there were no differences in the responses between the two age groups. Usher (2011) examined the types of social media (Web 2.0) usage associated with eight of Australia's major allied health. Australian health professionals are using social media to interact for personal use but are failing to implement such technologies throughout their health professions to deliver health care. Wheeler et al. (2011) evaluated attitudes and practices of aesthetic surgeons to social media applications. 46.7% of the respondents used social media in their personal life while 28.2% in their practice. Most plastic surgeons managed their social media themselves or through a staff member and the majority of the respondents who used social media in their practice claimed that their efforts were directed toward patient referrals. Brown et al. (2014) provided the national profile of Australian doctors' attitudes and use of social media. They mentioned that the majority of the doctors use social media privately. Doctors make limited use of online communication in clinical practice. Most of the participants in the study were hesitant to immerse themselves more fully in social media and online communication due to worries about public access and legal concerns. Regarding social media use from nurses, Hughes (2010) mentioned that U.S. nurses are using micro-blogging and status update services to communicate with patients and three out of four recommend health websites to patients.

## METHODOLOGY

The study aims at investigating the use of ICT and especially social media applications by medical, nursing and paramedical staff of Greek Hospitals. The research was conducted by administering a questionnaire which consisted of three sections. The first section of the questionnaire contained demographic data (age, sex, specialty), the second section contained items describing the education, training, working experience and the third section was related to the usage of the internet, social media and ICT.

The selection of questionnaire items was based on previous studies (Gonzalez de Dios et al., 2011; Usher, 2011; Wheeler et al., 2011). A five point Likert scale was used for the assessment. A jury of 12 experts (medical professionals employed at public hospitals) was surveyed to determine the content

validity of the proposed questionnaire. Then, a pilot study was conducted by administering the questionnaire to 35 healthcare practitioners. Taking into consideration the responses from the pretest group, considering variables and statistical analysis from the pilot test, the questionnaire was revised into a new validated version. Then the questionnaire was sent to 4 public Greek hospitals to be approved by the Scientific Councils. The final version of the questionnaire was created by taking into account the comments and suggestions of the Scientific Councils. The questionnaire was distributed to 4 public Greek hospitals and was filled in by 188 respondents: medical, nursing and paramedical staff.

		Frequency	Percent %
Gender	Male	48	25.5
	Female	140	74.5
Age	20-30	15	7.98
	31-40	81	43.08
	41-50	73	38.83
	51-60	16	8.51
	>61	3	1.60
Profession	Nurse	106	56.38
	Doctor	61	32.45
	Technician	21	11.17
Level of education	Nursing school / Technical school	37	19.68
	Higher education	123	65.43
	MSc	12	6.38
	PhD	16	8.51

Table 1. *Hospital's staff sample description*

## FINDINGS

In this section the findings of the empirical research are presented. The statistical elaboration of the data sets has been implemented by R, the software environment for statistical computing and graphical display (R Core Team, 2016a).

### *Demographic characteristics of the sample*

Table 1 presents the sample profile of the 188 respondents. The majority of the hospital's staff were females; specifically 74.5 % were females and 25.5 % males. The vast majority of the respondents were middle aged staff, since 81.91 % of them were between 31 and 50 years old. About the half of the sample (56.38 %) consists of nurses whereas the 32.45 % were doctors. The rest of the sample was



technicians. The level of staff's education is very high because only one fifth of the respondents have graduated from a postsecondary institute while the rest of the sample has a higher education or postgraduate degrees.

#### *Digital competencies of the staff*

In order to investigate if the staff had the knowledge and ability to use computers efficiently the dimension Computer Competency was included in the questionnaire. It consisted of eight Likert type questions regarding manipulation of documents, spreadsheets and presentations with a computer, internet navigation, email communication and use of specialized medical applications. The range of the responses is extended from 1 (lower level of competencies) to 5 (higher level). The distribution of Computer Competency for all respondents is depicted in the histogram of Figure 1. The distribution reveals that for all levels of computer competencies we have a considerable high number of responses. Furthermore, the distribution is close to Normal with mildly negative skewness showing that the respondents with high level computer competency are a small majority of the sample. This evidence is confirmed by the mean value of the dimension, 3.23, which is slightly higher than 3 (corresponds to moderate computer competency).

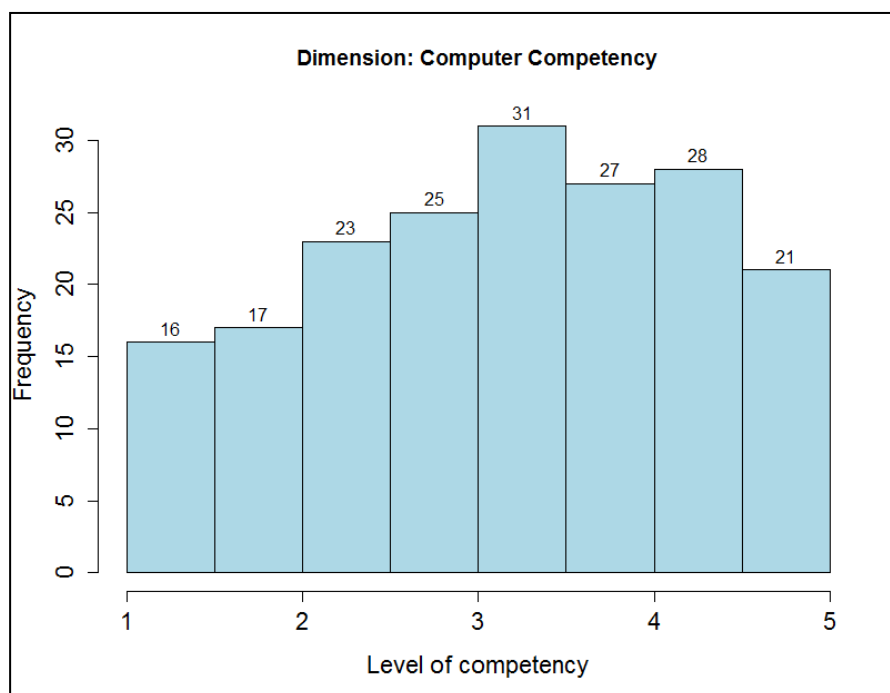


Figure 2. *Staff's computer competency.*

Another interesting question about the computer competency refers to the use of the Internet either for personal or professional reasons. The vast majority of the respondents (96.81 %) use the internet for personal reasons but only 66.49 % of the staff use the internet for professional reasons, as it is shown in Table 2.

	Professional use %		
Personal use %	Yes	No	Total
Yes	65.96	30.85	96.81
No	0.53	2.66	3.19
Total	66.49	33.51	100

Table 2. *Use of the Internet**The staffs' attitude towards social media*

The majority of the respondents (82.4 %) are familiar with the term "social media" but only a few of them use the social media for professional reasons (see Table 3). Specifically, 57.47 % (108 members of the hospitals' staff) use social media for personal reasons but only 16.49 % (31 respondents) for professional reasons. The last result indicates insufficient usage of web 2.0 applications, which may be due to lack of confidence in specialized medical social media.

	Professional use %			
Personal use %	No answer	Yes	No	Total
No answer	1	0	0	1
Yes	1	30	77	108
No	1	1	77	79
Total	3	31	154	188

Table 3. *Use of the social media*

In order to investigate the staff's attitude towards social media the Social Media dimension was included in the questionnaire. It consisted of five Likert type questions regarding the use of social media in the medical and healthcare professions. The range of the responses extended from 1 (disagreement) to 5 (agreement). The distribution of the responses of Social Media is presented in the histogram of Figure 2. The mean value and the median of the Social Media are 2.97 and 3 respectively. The distribution has similar characteristics with the one of Computer Competency as it is close to the Normal distribution.

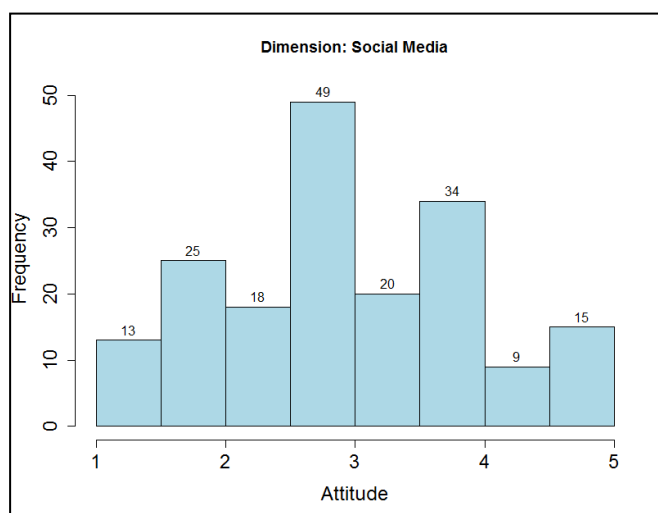


Figure 3. *Staff's attitude towards social media. The sample size is 183 (five individuals didn't answer the questions of the dimension).*

Only a small minority (16.49%) of the staff uses social media for professional reasons and their attitude towards medical blogs is more positive, as it is represented in the histogram of Figure 3. The same conclusion is deduced by the mean value of the dimension, which is 2.89.

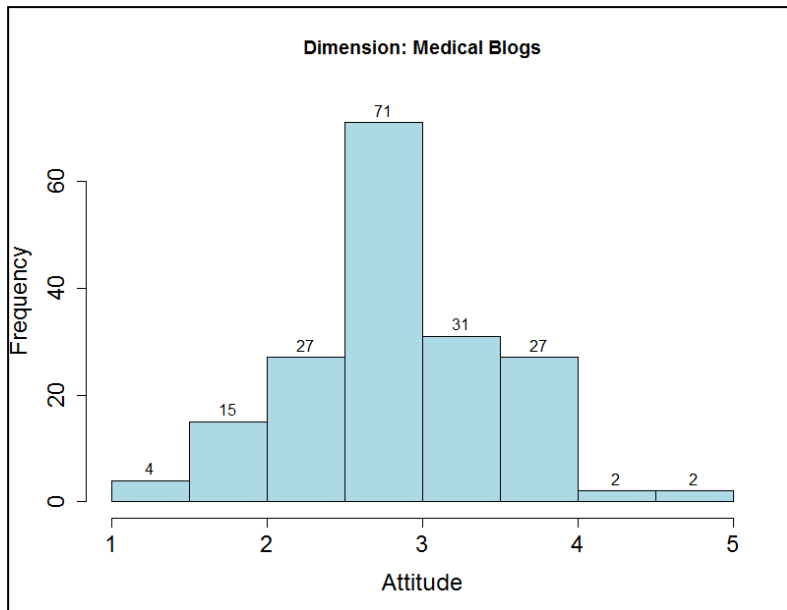


Figure 4. Staff's attitude towards medical blogs. The sample size is 179 (nine individuals didn't answer the questions of the dimension).

The preferences of the respondents to the most known social media are presented in the bar chart of Figure 4. Facebook, as it was expected, is the dominant choice with 55.9% and Google+ is second with 12.8 %.

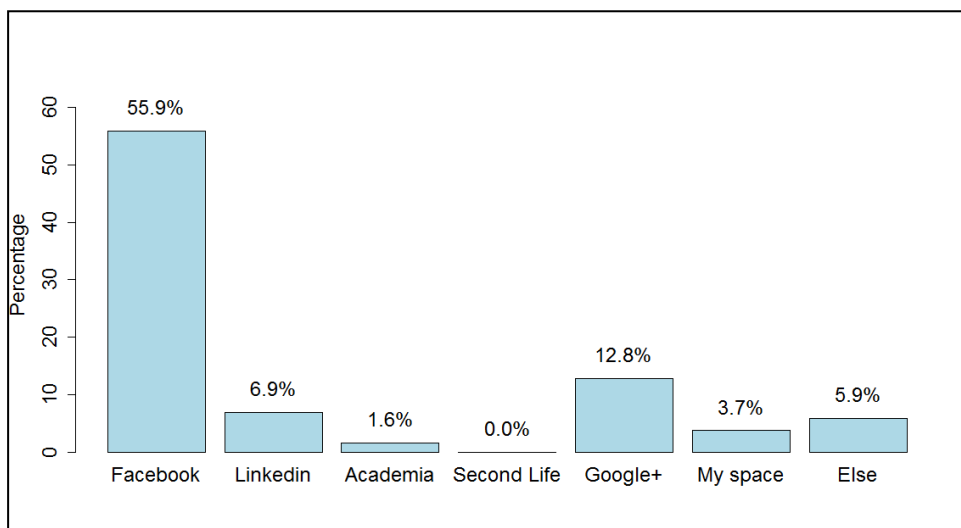


Figure 5. Staff's preferences about social media. 13.2 % of the sample didn't answer the question.

Next, the influence of the profession on the staff's attitude towards medical blogs is examined. For this purpose the Analysis of Variance is employed (Rencher & Schaalje, 2008, ch. 13). The calculations,

summarized in Table 4, indicate that there is a statistically significant difference in attitude towards medical blogs between doctors, nurses and technicians.

	Df	Sum of Squares	Mean Square	F value	Pr(>F)
Profession	2	4.94	2.4693	6.142	0.00264 **
Residuals	176	70.76	0.4021		

Signif. codes: 0 '\*\*\*' 0.001 '\*\*' 0.01 '\*' 0.05 '.' 0.1 ' ' 1

Table 4. ANOVA table for staff's attitude towards medical blogs according their profession.

Having detected statistically significant difference between the levels of the factor profession (doctors, nurses and technicians) we proceed on the pairwise comparisons using Tukey's Honest Significant Differences method which is "a set of confidence intervals on the differences between the levels of a factor ..." (R Core Team, 2016b, pp. 1630-1631). If the confidence interval includes zero then the two mean values of Medical Blogs do not differ significantly between the corresponding levels of the factor whereas if zero is outside the limits a statistically significance difference is detected. According to Figure 5 it is noticed that nurses have more positive opinion about medical blogs than doctors. Generally, doctors have the most negative attitude towards medical blogs compared to the other professionals. This may mean that doctors prefer to consult more valid sources than medical blogs.

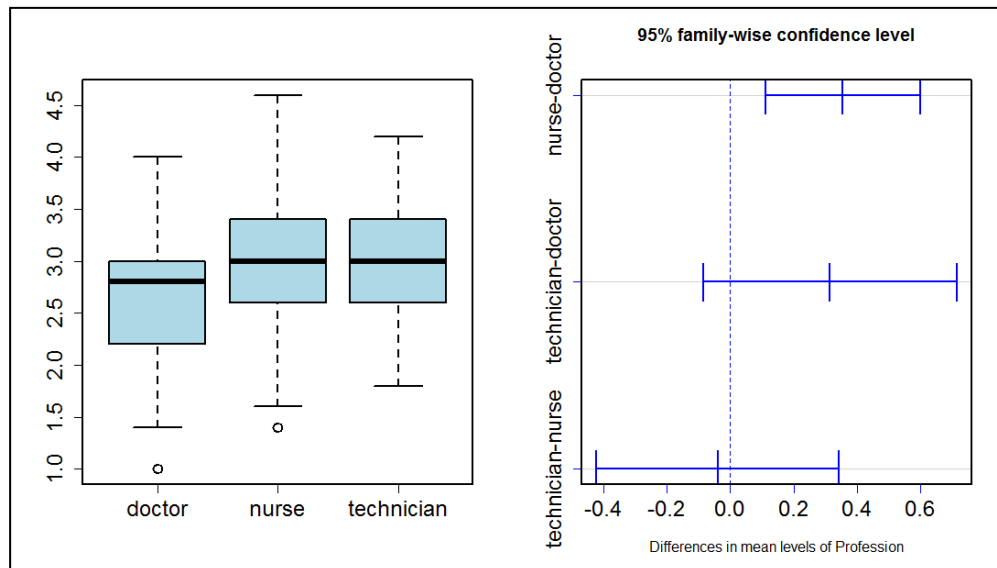


Figure 5. Box plots of Medical Blogs (on the left) and Tukey's Honest Significant Differences (on the right) for each level of the profession.

Similarly, ANOVA on the staff's attitude towards medical blogs between the levels of the factor age has been undertaken. As it is seen by Table 5 there is no statistically significant difference between the

levels of the factor. Therefore, the age of the staff does not affect their opinion about the use of medical blogs.

	Df	Sum of Squares	Mean Square	F value	Pr(>F)
Age	4	0.88	0.2209	0.514	0.726
Residuals	174	7482	0.4300		

Signif. codes: 0 '\*\*\*' 0.001 '\*\*' 0.01 '\*' 0.05 '.' 0.1 ' ' 1

Table 5. ANOVA table for staff's attitude towards medical blogs according their profession.

## CONCLUSIONS

Social media offer new choices to medical, nursing, paramedical staff and patients. This paper aims at investigating social media use by hospital staff in Greece. The statistical analysis highlights that most medical practitioners in Greek hospitals are familiar with the social media although the individuals do not have equivalent computer competencies. This is in line with the major premise of social media which is the fact that the users can create their own content without having high computer competencies. Pedley (2005, p.95) characteristically wrote that “A major attraction of Weblogs is their relative ease of construction/ updating and the lack of the need or any special skills in web design or of HTML coding”. As analysis revealed, the hospitals' staff trust social media for personal use but they are rather cautious for professional use. This finding is in accordance to those of Usher (2011), Wheeler et al. (2011) and Brown et al. (2014). Despite the fact that social media are becoming an increasingly common feature of the world hospital's staff has different practices and views regarding personal and professional use. There is an open argument about how much faith to place on social media. Hughes et al. (2009) highlighted the widespread concern with the risk of poor quality information in social media. Profession affects the attitude of the staff towards medical blogs whereas the age of the staff does not have statistically significant influence. Thus, it seems that social media is viewed as an increasingly important source of medical information for nurses while doctors are more skeptical. Doctors concern with the quality and authorship of online information and the risks associated with using potentially inaccurate or anonymously written information. However, recent growth of social media use implies that it is important for hospitals' staff to develop a better understanding of social media and their impact on health communication. In this vein, hospitals' administrations should propose and undertake staff training on the new digital media technology.

The study gives a first piece of evidence on the adoption and use of social media applications by hospital staff in Greece. However, the research was limited to the staff of four public hospitals and did

not investigate the factors involved in the adoption of social media. Thus, further research is needed to investigate the factors affecting the adoption of social media.

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## PREVIOUS CONVICTION (CRIMINAL RECORD) AND ITS EFFECT IN SOUTH AFRICAN LAW

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### ABSTRACT

The purpose of expungement statutes would be to promote and protect the right to equality and therefore promote re-integration into society after a criminal conviction. A criminal record has serious implications, for example, in practice a convicted person is branded as an untrustworthy member of society and are the subject of suspicion and mistrust. It will help adult offenders in their rehabilitation efforts and promote their re-integration into society. The retention of expungement of criminal records centres on two issues: the duty to promote safety in society and to protect citizens from dangerous and dishonest individuals and the right to equality and the constitutional duty on the state to free the potential of each person. This paper will evaluate the constitutional implications of all relevant legislative provisions, and how the principle of the expungement of criminal records should be interpreted, with due regard to South Africa's constitutional dispensation. The constitutional validity of legislation dealing with expungements and the extent to which it could be justified should be done having considered and weighed both the rights in question.

**Keywords:** *expungement, criminal record, protective, constitutional rights.*

### INTRODUCTION

Bearing having a criminal record can have serious implications for an individual's prospects of finding employment. The rationale for legislation providing for expungement of criminal records infringe the rights contained in the Constitution namely the right of the community to protection and secondly the rights of an applicant to equity and dignity. In South Africa the issue of criminal records was recently brought to the public by an amendment to the Criminal Procedure Act 51 of 1977, through the Criminal Procedure Amendment Act 65 of 2008 which came into force on 6 May 2009.

### IDENTIFYING THE ISSUES

Expunging your criminal record in South Africa is the process of applying to the Department of Justice under the South African Expungement of a Criminal Record in terms of the Criminal



Procedure Act, 1977 (Act 51 of 1997). If the expungement application is granted, you will no longer be considered convicted of the crime, and your criminal record will be permanently removed off the national criminal register. Subsequently, once the conviction is expunged by the Department of Justice you can truthfully tell employers, your family, and all other interested parties that you have not previously been convicted of a crime. Furthermore, the expunged conviction will no longer show on employer background checks. There is no universal accepted definition but in general refers to the destruction or obliteration of an individual's criminal file by the relevant authorities in order to prevent employers, judges, police officers and others from learning of a person's prior criminal activities.

The Criminal Procedure Amendment Act 65 of 2008 created a mechanism for the expungement of certain criminal convictions but various legislations are complex and in certain cases very confusing on the mechanism.

## **THE RIGHT TO PROTECTION AND THE STATE'S DUTY TO PROTECT SOCIETY**

The duty to promote safety in society and protect citizens from dangerous and dishonest individuals is a State constitutional responsibility and liability and on the other hand the right to equality and the constitutional duty on the state to free the potential of each person must be balanced. Chapter 2 of the *Constitution 1996* contains no express hierarchy of rights and is affirmed by the Constitutional Court in *Khumalo and Others v Holomisa*.

The state has a duty to promote safety in society and protect citizens from dangerous and dishonest individuals. The question to ask is what is the state's responsibilities regarding effective criminal justice system and its liability to pay compensation to victims of crime in cases of failure to meet the required standards.

## **RELEVANT LEGISLATIVE AND CONSTITUTIONAL PROVISIONS**

The question of the state's responsibilities regarding an effective criminal justice system and its liabilities to pay compensation to victims of crime in cases of failure must meet the required standards. Do the victims of crime have a right to compensation against an offender or the State in criminal proceedings or, following criminal proceedings in civil proceedings, should it be considered with reference to applicable legislation and the Constitution.

The Constitution does not create a right to compensation but confirms general rights applicable to all citizens which are therefore also applicable to victims of crime and have specific relevance to the

treatment of victims, for example the right to be treated with dignity, the right to protection, the right to life, the right to security of the person, etc.

## **THE LEGAL POSITION IN THE RESPECT OF COMPENSATION PRIOR TO THE CONSTITUTIONAL ERA**

An offender's liability to pay compensation has been recognised in terms of the common law (civil cases) and in terms of national legislation (criminal cases).

Prior to 1994 claims against an offender were based on the common law and relevant legislation and liability of the offender was considered in terms of the law of delict and that of the state was considered in terms of the common principle of vicarious liability, where the state was held liable for the actions of its employees because of the existence of a special relationship between the State and its employees where the State acts through its employees.

Generally speaking, an employer is vicariously liable for a delict committed by an employee, provided that the employee was acting within the course and scope of his/her employment when the harm was caused (Neethling and Potgieter, 2010) (Boberg, 1984). The employer is held liable without fault for an employee's wrongdoing and the delictual liability of the employee is transferred

## **THE LEGAL POSITION IN THE CONSTITUTIONAL ERA**

The Constitutional principles was considered for the first time by the Constitutional Court in *Carmichele v Minister of Safety and Security* and again in *K v Minister of Safety and Security* when considering vicarious liability in civil cases. In the *Carmichele* case a delictual claim for damages against the State by a rape victim not in the employ of government was submitted. The basis of the claim was that:

- 1) Despite the accused's history of sexual violence, the police and prosecutor had recommended his release without bail.
- 2) The complainant also relied on the duties imposed on the police by the Interim Constitution and on the State under the rights to life, equality, dignity, freedom and security of the person and privacy.

The Constitutional Court considered the potential liability of both police and prosecutors. As to the police, it held that the State is obliged by the Constitution and international law to prevent gender-based discrimination and to protect the dignity, freedom and security of women. It is important that women be free from the threat of sexual violence. In the particular circumstances of the present case the police recommendation for the assailant's release could therefore amount to wrongful conduct

giving rise to liability for the consequences. Similarly, the Court held that prosecutors, who are under a general duty to place before a court any information relevant to the refusal or grant of bail, might reasonably be held liable for negligently failing to fulfil that duty (*Carmichele v Minister of Safety and Security*).

The case of *F v Minister of Safety and Security* raised the question whether the Minister of Safety and Security should be held vicariously liable for damages arising from the rape of a 13 year old child by a policeman who was on standby duty in a typical so-called case covered by the common law.

The constitutionalised approach to vicarious liability set out by O'Regan J in *K* has been justifiably described as revolutionary and ground-breaking. In providing that policy, considerations and other norms must now play a direct and pivotal role in deciding questions of vicarious liability, the Constitutional Court gave the green light for courts to impose vicarious liability on employers in circumstances where the factual links between the conduct of the employee and the business of his employer were weak, but where compelling policy considerations existed to justify the imposition of vicarious liability on the employer. In the majority judgment of Judge Mogoeng CJ expressly emphasises the importance policy considerations now play in deciding questions of vicarious liability, and proceeds to set these out in some detail. However, a close reading of the judgment reveals that it was, in fact, the factual linkages that existed between the wrongdoer employee's conduct and the business of the SAPS which led the judge to make a finding of vicarious liability in this instance (Scott, 2012). O'Regan's decision to impose liability on the state was the constitutional imperative for doing so. The majority judgment in *F* would have been more internally coherent and better aligned with *K* if Mogoeng CJ had acknowledged the weak factual link between Van Wyk's delictual conduct and the business of his employer, but justified his decision primarily on the basis of constitutional norms and public policy. Such an approach would have set a precedent for other judges to consider a broad range of policy considerations when deciding whether or not to impose vicarious liability on the state, instead of being circumscribed by the restrictive and somewhat artificial "intimate link" enquiry with its emphasis on factual connections (Linscott, 2014 volume 17 no 6).

The justification for expungement legislation requires a consideration of two competing constitutional rights. On the one hand it entails the right to protection and on the other hand it entails the right to equality and dignity of citizens. The Supreme Court of Appeal in *Minister of Safety and Security v Van Duivenboden* concluded that while private citizens might be entitled to remain passive when the constitutional rights of other citizens are under threat, the state has a positive constitutional duty to act in the protection of the rights in the Bill of Rights. Secondly the current legislation enabling the expungement of criminal records entail an administrative process of a public official to approve the expungement of criminal records. The Constitution places an obligation on the organs of state,

through legislative and other measures, to ensure the impartiality, independence, dignity, accessibility and effectiveness of the court.

## **EXPUNGEMENT IN COMPARATIVE JURISDICTIONS**

Expungement in the United States is a process which varies across jurisdictions. Criminal records may be expunged, though laws vary by state. Many types of offenses may be expunged, ranging from parking fines to felonies. In general, once sealed or expunged, all records of an arrest and/or subsequent court case are removed from the public record, and the individual may legally deny or fail to acknowledge ever having been arrested for or charged with any crime which has been expunged.

Expungement is experienced in the United States of America over many years and because of the variety in the legislation in the different states while expungement in South Africa is of recent origin.

A number of states in the USA provide for the expungement of criminal records in respect of both juvenile and adult offenders (Funk; 1996). There are differences in operation between the various states and federal statutes but all have one shared goal and that is they seek to prevent the courts, law enforcement agencies and employers from gaining access to information concerning an individual's prior juvenile arrest record and juvenile adjudications.

Once an expungement has been granted, the court will seal or destroy the criminal records in its possession. But what about the agencies and organizations that have previously entered the conviction into their databases? In many states, it is the individual's responsibility to submit a copy of the expungement order to these entities along with a request that they update their records accordingly. Individuals or their attorneys may need to disseminate proof of the expungement to other courts, prosecuting attorney offices, the department of motor vehicles, family services agencies, and so forth.

Convincing an agency to honor an expungement order can raise issues of jurisdiction and comity. For example, the record of a state felony conviction may appear in the FBI database, to be found by employers or others conducting a background check. After expunging such a conviction, a copy of the court order instructing that all records must be destroyed should therefore be sent to the FBI. However, because the FBI is a federal agency, it is not bound to follow an order issued by a state court. To resolve issues like this, it is wise to hire an attorney not only to obtain the expungement order, but also to make sure the order is distributed to, and recognized by, the appropriate agencies.

The justification for the expungement of criminal records of adult offenders are similar to those advanced in support of expungement of the criminal records of juvenile offenders. Both are motivated by a desire to mitigate the collateral consequences of having criminal record by providing convicted offenders with an opportunity to enhance or promote their re-integration into society under certain

circumstances. Therefore, the principle motivation for enacting an expungement process in respect of both juvenile and adult offenders, are similar. Most US jurisdiction offenders seeking to put their criminal past behind them are frustrated by a legal system that is too complex and unclear and therefore inadequate to the task. Discretionary decisions are often unfair and also unreliable. Pardon has never been routinely available to ordinary people in more than a handful of states, and administrative certificates of rehabilitation have not caught on outside New York. A pardon can be granted only by the President of the United States for federal offenses, and the state governor, certain other state executive officers, or the State Board of Pardons and Paroles (varies from state to state) for state offenses.

In the United Kingdom the term "spent conviction" is used. The relevant legislation is the Rehabilitation of Offenders Act 1974.<sup>4</sup> The information needed to begin the process includes the date of the arrest, the offence you were arrested for, the original summons, warrant, complaint number or indictment. Also needed are the dates of the disposition or the date of the plea of "not guilty," as well as the specific punishment rendered by the court. The process to follow are;

- 1) Fill out the forms. There are six forms that need to be filled out and filed for criminal record expungement. The forms include the following: 1) Request for Police Records, 2) Petition for Expungement, 3) Order for Hearing, 4) Expungement Order, 5) Cover Letter and 6) Proof of Notice.
- 2) File the forms and have them served to the proper destinations. Three copies should be made of the Petition for Expungement, the Order for Hearing, and the proposed Expungement Order.
- 3) Once the forms have been filed, you will receive copies of the forms mentioned above with docket numbers stamped on them, and they will be marked as filed. Make seven copies of each of the three forms.
- 4) The seven copies should be mailed to the following government agencies via certified mail: The Attorney General, the Superintendent of State Police-Expungement Unit, the County Prosecutor, the Court Clerk, the Chief of Police where the offence was committed, the Chief Law Enforcement Officer of the state where the offence took place, and the warden of any institution where the person in question was incarcerated. The county probation office should be notified if the case involved a conditional discharge or pre-trial intervention.
- 5) Wait for your hearing to be set. Not all jurisdictions require attendance, but it would be in your best interest to attend. If there is no opposition presented against the expungement,

your record will more than likely be cleared by the judge. If there is an opposition, most likely from a law enforcement officer, the judge will hear his side of the story and then make the final decision.

- 6) Receive a copy of the expungement order; this is signed by the judge and stamped as filed by the court.
- 7) Make copies of this form and mail it to the government agencies listed, plus the records division of any institution where you were incarcerated, as well as the identification bureau where the arrest was made. [http://www.ehow.co.uk/how\\_4618562\\_criminal-record-expunged.html](http://www.ehow.co.uk/how_4618562_criminal-record-expunged.html)

A very real distinction exists between an expungement and a pardon in the United Kingdom. When an expungement is granted, the person whose record is expunged may, for most purposes, treat the event as if it never occurred. A pardon (also called "executive clemency") does not "erase" the event; rather, it constitutes forgiveness.

In Germany the classification of Herzog-Evans (2011b)(Morgenstern, 2011) explains that the German system does not leave much leeway for ceremonies that would formally acknowledge desistance. The ex-offender does not even receive a notice once his or her record has been cleared.

## **PROBLEMS IDENTIFIED IN THE LEGISLATIVE FRAMEWORK OF EXPUNGEMENT IN SOUTH AFRICA**

There are problems of non-alignment of different Acts (Constitution, The Criminal Procedure Act, Child Justice Act and Criminal Act) in the expungement legislative framework.

- 1) Differences in process, qualifications and consequences.

The Constitution does not specifically provide for expungement, it categorically states that a disqualification for membership of the National Assembly and the Provincial legislature ends five years after the sentence following a conviction has been completed and in fact confirms that no effect could be given to a conviction for purposes reintegration into society with reference to becoming a member of parliament five years after completion of the sentence. The Constitution does not provide for expungement of a criminal record in the same sense as the Criminal Procedure Act, but provides for the clearing or fall away of the consequences of such a conviction for purposes of employment.

Clarity should be provided regarding the implications and consequences of the falling away provision (Muntingh, 2011). In *S v Mqwathi* it was stated that the court had an unfettered discretion and does not mechanically take into account the 10 year period. It can be decided having regard to the nature,

number and extent of similar previous offences and the passage of time between them and the present offence, to leave out of account the previous convictions, even where the last conviction is less than ten years old, and treat the accused as a first offender.

2) Differences in the qualifying criteria for expungement in some of the different Acts.

The qualifying criteria for expungement in terms of the Criminal Procedure Act is based on sentence imposed whereas the qualifying criteria in respect of juvenile offenders is based on the offences listed in Schedule 1 and 2 of the Act.

The Director-General of the Department of Justice and Constitutional Development has no discretion to issue a certificate of expungement since a certificate must be issued if the Director-General is satisfied that there is compliance with the criteria in the Act. Section 87 of the Criminal Procedure Act does not provide that the issuing of a certificate of expungement leaves no discretion to the approving authority. It provides that the Director-General of the Department of Justice and Constitutional Development must on receipt of the written application of an applicant issue the prescribed certificate of expungement, and direct that the conviction and sentence of the child be expunged if the Director-General is satisfied that the child complies with the criteria as set down in the Act, namely the time lapse of five years in respect of the offences in Schedule a and ten years in respect of Schedule 2. The question arises whether or not provision should not be made for both juvenile and adult offenders to submit an application to court for an expungement in respect of a criminal conviction in respect of an offence or sentence not covered in the legislation and before expiration of the qualifying time frames based on the amended qualifying criteria and against the benchmark of consideration of the existence of exceptional circumstances.

Mr Muntingh state that there are a number of problem areas in relation to the procedure for removal (Muntingh, 2011). The time line for an application for removal from the National Sex Offenders Register is different from the time line required for submission of an application for expungement in terms of the Criminal Procedure Act. The recommendation is that the time line for applications for expungement and for removal of the name on the Sex Offender Registrar should be aligned.

Section 297 of the Criminal Procedure Act provides for an acquittal even though a conviction is recorded. The Criminal Procedure Act must be amended. A conviction remains a conviction and cannot be regarded as an acquittal.

An application for removal from the National Register for Sex Offenders has more formal requirements than an application for expungement. The applications must also be aligned.

## CONCLUSION AND RECOMMENDATIONS

The Criminal Procedure Amendment Act has created a mechanism for the expungement of criminal records in certain instances but there are also further developments relevant to expungement and the consequences of a conviction and criminal record in respect of certain crimes. In respect of apartheid era crimes this was long overdue, but the new mechanism has now also drawn attention to the broader issue of criminal records and how this is designed, manages and utilised.

The various legislative interventions is a complex and often confusing due to a system that sets different sets of yardsticks when dealing with criminal records and their expungements. For example the key variable may be the date of conviction, the date when the sentence expires or the date of release from prison.

The question that must be asked is what purpose(s) the retention of criminal records aims to serve. Fundamental to the debate is the acknowledgement that having a criminal record can be severely detrimental to a person's access to employment and social status in general.

On the one hand for law enforcement purposes the state collects information on and maintains vast database on criminal convictions. This information appears to be accessible to third parties, especially the private sector. On the other hand, the state has a positive obligation not to discriminate and to promote equal treatment for all (section 9 of the Constitution). If finding employment is affected by discrimination based purely on having a criminal record. This may result in the violation of other rights namely dignity, the limitation of this right needs to be measured against the standard set in section 36 of the Constitution, namely the limitation clause. It needs to apply rules universally with minimum exceptions, striking a balance between the protection of public safety and Constitutional obligations.

A system of expungement needs to be understandable to lay persons and those who would stand to benefit from it. The provisions for the expungement of criminal records are complex since different provisions apply to different cases and in some instances these are connected to the registers that have their own criteria for removal.

The possibility of expungement should create a real incentive for a broad range of convicted offenders to refrain from committing further offences.

Developing policy and legislation for the expungement of criminal records should be based on reliable information describing offending and re-offending patterns.

The retention of criminal records should be selective and purposeful. There is a small group of offenders who will continue to pose a risk to society and/or who have committed such heinous crimes that the expungement of the conviction(s) is not morally justifiable. There is also offenders that such persons to be expunged is not in the interest of public safety. The aim should be to define these



categories of offenders as narrowly as possible with the purpose to protect public safety, rather than blanket categorising that have been the basis for the existing legislation on the expungement of criminal records.

There is no man, however wise, who has not at some period of his youth said things or lived in a way the consciousness of which is so unpleasant to him in later life, that he would gladly if he could, expunge it from his memory. (Marcel Proust, French Novelist and Author 1871-1902).

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- Sexual Offences and Related Amendment Act 32 of 2007.
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## ORGANIZATIONAL DECLINE IN PUBLIC SECTOR ORGANIZATION: KEY PUBLIC POLICY

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### ABSTRACT

**Purpose:** This paper aims to understand causes of organizational decline in the public sector, while focusing on how lack of public policy and reducing budgets intensify the incidence of decline in public organizations. This topic is likely to remain a highly relevant concern to worldwide management and public policy scholars studying how organizations fail to mitigate decline and how such consequences arise. However, research on this phenomenon within the public setting remains empirically and theoretically fragmented.

**Methodology:** The paper relies on a qualitative dataset and analysis of public documents and reports, committees of inquiry findings and institutional publications all used to identify the policy causes of prolonged decline in the public Fire Fighting Services in Israel.

**Findings:** The findings suggest a dynamic view of the organizational failure, showing that over three decades, two main external factors – lack of public policy and unsuitable budget policy – simultaneously affected the nature and outcomes of organizational decline in the public Fire Fighting Services in Israel.

**Practical implications:** Organizational response is an important factor in coping successfully with conditions of organizational decline. Both the theoretical framework and the findings are likely to motivate leaders and managers to recognize major weaknesses or features that may potentially intensify decline and threaten the robustness of the organization in the public sector.

**Originality:** The paper emphasizes the insight that effective measures to prevent or remedy organizational decline in the public setting require a prior understanding of its root causes.

**Keywords:** *Organizational decline, Public Policy, Public Management.*

### INTRODUCTION

Organizational decline is a common phenomenon in the organizational domain. Notably, about half (49.8%) of the companies in the SandP 500 index for the year 2010 had experienced more than three years of decline within the prior five years (Trahms, Ndofor, and Sirmon, 2013:1278). Organizational

decline refers to "a substantial, absolute decrease in an organization's resource base [that] occurs over a specified period of time" (Cameron, Kim, and Whetten, 1987a: 224) and potentially threatens the stability as well as the existence of the organization.

Drawing on the idea that whether decline results in a positive or negative consequence depends on how it is managed (Cameron, Kim, *et al.*, 1987), the main argument in the paper is that organizational recognition and response are inevitable. Specifically, managers and decision makers in the organization should understand the onset of decline, its characteristics and its specific roots. The paper aims to describe how specific external causes may intensify decline and failure conditions in public sector organization, because less effort has been invested in reviewing or exposing these topics in public settings (Amankwah-Amoah and Debrah, 2010; Jas and Skelcher, 2005) than in private ones.

In the literature organizational decline is discussed extensively in several disciplines, and the core body of study has tried to understand and investigate the nature of the phenomenon, its characteristics and its hazardous consequences. The literature suggests several causes of decline in the organizational setting (Anheier, 1999; Levine, 1978; Mellahi and Wilkinson, 2004; Meyer and Zucker, 1989; Whetten, 1988). It distinguishes between external and internal sources of decline and examines the ability of the organization to influence or manage that decline (Jas and Skelcher, 2005). However, so far "we are still unable to fully capture the underlying dynamics or explain how and why firms, even seemingly successful firms, may decline" (Serra, Ferreira and Almeida, 2013, p. 135).

Based on the assumptions that effective measures to prevent or remedy organizational failure and decline require an understanding of its root causes (Amankwah-Amoah and Debrah, 2010; Carmeli and Schaubroeck, 2008), the paper aims to discuss the role of lack of public policy and the reduction of resources and budgets in augmenting organizational decline in the Fire and Rescue Authority in Israel. The paper is congruent with the actions of Western European countries such as the UK who introduced, a decade ago, performance management regimes to address perceived weaknesses in public service and avoid failure within their organizations (Andrews, Boyne, and Enticott, 2006).

The relevance of a public-sector context of the literature on organizational decline is limited. To date, most studies that discussed causes of organizational failure and decline targeted business, economic and organizational behaviors or strategic aspects (Cameron, Sutton, and Whetten, 1988; Carmeli and Scarbroak, 2008; Debrah, 2010; Latham and Braun, 2009; Mellahi, Jackson, and Sparks, 2002; Mellahi and Wilkinson, 2004, 2010; Mone, McKinley, and Barker, 1998) rather than public management or public policy. As Jas and Skelcher (2005: 199) point out, the empirical evidence is largely drawn from the private sector, where there are different institutional and organizational characteristics. In contrast, public organizations present a different performance and more complex results. From the private sector viewpoint, failure is principally conceived in terms of organizational scale (employees,

turnover or product range) or market share, criteria that do not translate into the public-sector environment where scale is a function of legal and political decisions, and services still retain a quasi-monopolistic status. Another tendency of the core body of empirical studies is to concentrate on private sector organizations located in North America and Europe (Bruton, Ahlstrom, and Wan, 2001, 2003). Consequently, less empirical research and theorizing exist in the public-sector context.

The paper is organized as follows. It starts by suggesting a definition of organizational decline in the public organization context and follows by presenting the main perspectives used to examine this topic. Next the case study of organizational decline in the Fire Fighting Services of Israel presents two main external causes – a lack of public policy and a reduced budget – and explains how these intensify organizational decline. Finally, a brief conclusion follows after the topic entitled Implications for Public Policy and Decision Making

## **THEORETICAL BACKGROUND**

### **DEFINING ORGANIZATIONAL DECLINE**

Researchers that discuss organizational decline mainly focus on two major topics: the first, which is the basis of our study, being the causes of such decline (Anheier, 1999; Cameron, Sutton, and Whetten, 1988; Finkelstein, 2003; Mellahi, 2005; Mellahi *et al.*, 2002; Sheppard and Chowdhury, 2005). The second topic is organizational learning from previous experiences, in particular during periods of failure. Here the discussion concentrates on how great organizations put failure to work in order to improve and innovate (Cannon and Edmondson, 2005), and how companies can learn from their failures (Baumard and Starbuck, 2005; Carmeli and Schaubroeck, 2008; Desai, 2010; Yeo, 2010).

The classic studies which form the basis of this research describe organizational decline in a variety of ways, such as reduction of organizational dimension or a downturn in organizational size or performance (McKinley, 1987), stagnation or cutbacks (Whetten, 1980b), a decrease in the number of organizational employees and resources a decrease in an organization's resource base (Cameron, Kim, and Whetten, 1987) or maladaptation to a changing environment. Freeman and Cameron (1993) distinguish organizational decline from organizational downsizing. The former is an involuntary, unintended resource decrease that affects an organization, whereas organizational downsizing is an intentional workforce reduction engineered by managers (McKinley, Latham, and Braun, 2014:90).

Regarding unique characteristics of the public sector, some external symptoms noted above are irrelevant when seeking to understand the decline phenomena within organizations with national or public stakeholders. Hence, we adopt the McKinley, Latham and Braun (2014) idea – originally suggested by Cameron *et al.*, (1987a) – concerning the most relevant definition that generalizes across profit-making and not-for-profit organizations. These researchers explain organizational decline as a

successive, year-after-year decrease in an organization's resource base of a minimum two year duration. In other words, a "two-year period is a useful minimum time period for defining organizational decline because it provides enough time for the resource reductions to be noticed by managers and to evoke a response" (McKinley, Latham and Braun 2014: 90).

Within public organizations the measurement, evaluation and determination of decline are distinctive since governmental policy and actions focus more on social strategy than on profit-making and competitive goals. Naturally, public sector organizations are not targeted on a profit basis and are generally evaluated regarding their provision of goods or services that create public and social value. Gillespie and Dietz (2009) describe failure and decline situations as a single major incident, or as a cumulative series of incidents, resulting from the action or inaction of organizational agents. Such actions threaten the legitimacy of the organization and can potentially harm the wellbeing of one or more of the organization's stakeholders (p. 128). Based on that idea, public sector declines occur in cases where at least some of the key stakeholders in the organization (employees, citizens and other beneficiaries) believe that it faces problems that seriously threaten its legitimacy, resource base or even its survival. These problems imply a reduction of skills, capabilities and resources within the organization (Cameron *et al.*, 1998; Mordaunt and Otto, 2004). This is consistent with the idea that decline and failure conditions generally have prolonged negative consequences. To help understand their causes, one may take both organizational and environmental factors into consideration (Mellahi and Wilkinson, 2004).

## CAUSES OF ORGANIZATIONAL DECLINE

Causes of decline can be classified into two points of view with two different perspectives: one focuses on environments (specifically, the external environment) (Aldrich and Pfeffer, 1979; Cameron *et al.*, 1988), whereas the other concerns managerial behavior (specifically, internal factors) (Brown and Starkey, 2000; Doganis, 2006; Hodgkinson and Wright, 2002; Tedlow, 2008). In the external environment, studies have suggested a range of causes for organizational decline, which are mainly rooted in the changes and challenges of market, global and public environments and economic conditions (Kam, 2005). The second dominant perspective focuses on internal behavioral factors (Kam, 2005; Tedlow, 2008), primarily emphasizing internal and human factors in organizations. Among these are strategic persistency (), a threat-rigidity effect (Staw, Sandelands and Dutton, 1981), decision-makers' judgments on failure (Larson and Clute, 1979) and organizational inertia (Miller and Chen, 1994). These research studies suggest that internal traits are the main contributors to an organization's decline and eventual failure, while (Kam, 2005: 401) downplays the influence of the external environment. Managers, who play a central role, can shape the fate of their organization by

responding well or poorly to external changes (Barker and Duhaime, 1997). Management actions tend to be influenced by their mental models of the organization and its environment (Mellahi and Wilkinson, 2004: 28).

Studies on the public sector have noted that public organizations are more likely to fail and display decline conditions if they have weak political and managerial leadership (Andrews *et al.*, 2006). Research on decline in state-owned companies found relationships between excessive bureaucracy, poor management, lack of clear strategy, overstaffing, political intervention and undercapitalization (Doganis, 2006). Amankwah-Amoah and Debrah (2010) argued that performance and failure occur mainly as a result of environmental factors in a process of “natural selection”, where companies that do not fit their environment are “selected out” and “pay the high price” or “collapse” (Andrew *et al.*, 2006).

Regarding external causes that are relevant to the public sector, organizational ecologists seek to explain how social, economic or political conditions affect the relative abundance and diversity of organizations. (Clegg and Hardy, 1999) emphasized that other organizations can play a role in the likelihood of success or failure of an organization (Mellahi and Wilkinson, 2004: 24). Similarly, government units and political decisions enhance the potential of organizational decline. Next we present a specific case study of the public Fire Fighting Services of Israel. Here two main external factors in the governmental and political environment – lack of public policy and budget reduction – coalesce, intensifying and prolonging organizational decline.

## **CASE STUDY METHODOLOGY**

### **DECLINE IN THE FIRE FIGHTING SERVICES OF ISRAEL**

On July, 2012, two years after the Mount Carmel Forest mass disaster in Israel, in which, 44 people were killed and almost 17000 citizens evacuated and transferred, the Israeli government accepted Decision No. 2699 to establish a new operation of the Fire and Rescue Authority within the public sector (Prime Minister's Office, Decision No. 2699, 2011). Currently this authority operates under the new law of "Israel Fire and Rescue Services – 2012" that is based on intensive policymakers' work. The law was passed as part of a comprehensive reform of the Firefighting Services in Israel and assumes the necessary legal infrastructure to operate the national authority of the Fire and Rescue Services in Israel.

Structurally, before 2012 the activities of the Fire and Rescue Services in Israel were regulated under the Fire Department law of 1959 and operated as municipal entities. Overall there were 24 authorities: 20 of them were conurbations of Fire Fighting Services, and four other authorities worked directly under local authorities. The head of these 24 authorities was appointed commander of the Firefighting

Service. One of the main changes in the public policy manifested in the new law is the transition from decentralized conurbations to the establishment of a national authority that operates on a nationwide basis under the Ministry of Public Security.

Between January and June 2011 the State Comptroller investigated aspects of the structure of the firefighting system and its services. The findings published on June 20, 2012 by the State Comptroller's office emphasize that recognizing decline in public sector organization is a critical skill that involves understanding its roots, so as to predict and to avoid problems.

## **THE RESEARCH CONTEXT**

Edmondson and McManus (2007) indicate that qualitative research is appropriate to explain the dynamics. Using case studies or a narrative provides at least two key advantages to this type of inquiry. First, through this process informants can assign meanings to their lives and their social environment (Weick, 1995; Gabriel, 2000). Second, individual case studies or narratives often represent facts and interpretations of a broader collective reality (Boje, 1991).

## **DATA COLLECTION**

Qualitative data was collected for study for a comprehensive examination of the organizational failure within the Fire Fighting Services of Israel between 2010 and 2012. The data included numerous examples of official publications such as the State Comptroller's report (Omissions, Failures and Conclusions 20.6.2012), the main audit report, a committees report, policy papers and documents provided by Ministry of Interior committees.

The data were analyzed in a two-step process. First, I identified common themes that repeatedly appeared in the content data and organized them into frameworks representing the identified dominant responses (Miles and Huberman, 1984). Secondly, I compare the documents and located central themes (Kets de Vries and Miller, 1987).

## **ANALYSIS OF THE EXTERNAL FACTORS OF DECLINE – PUBLIC POLICY**

When the general public and policymakers believe that government needs to intervene to correct a social problem, they create or alter policies (Kraft and Furlung, 2015). In the case of the Fire Fighting Services of Israel, over the years policymakers discussed its decline and mentioned the responsibility of government to confront its critical deterioration of organizational capabilities and resources. Six public reports published by government agencies in 1995, 1998, 2007, 2009 and 2012, and one main audit report by the State Comptroller after the Second Lebanon War examined the Fire Fighting

Services' preparedness for emergencies and functions during wartime and in general. The reports list deficiencies that were found in the Fire Fighting Services in terms of organizational structure and resources (equipment and manpower) (The state comptroller, 2010:19). Repeated conclusions documented in these reports argue that the lack of clear policy in handling the Fire Fighting Services was the main cause for the ongoing decline. Analysis of public reports focuses on government actions since 1978. They reveal that the Israeli government mainly dealt with Fire Fighting Services problems by writing reports and appointing public committees to investigate and examine conditions, instead of initiating meaningful actions, such as legislation, government support and resource allocation (Audit Report, 2012-004: 5). In other words, the main policy was inaction (Audit Report, 2012: 467-469).

Table 1: Policy Summary 1948-2013		
Year	Event	Main Policy implemented
1948	Expansion of fire system within the conurbations	
1995	Fires in the Jerusalem and Judean hills, Golan Heights, hazardous materials in Ashdod and Haifa mountains	The government appoints the Lapidot Committee to investigate the condition and activities of the Fire Fighting Services.
1998		The government appoints the Genosar Committee to examine how to implement the recommendations of the Lapidot Committee.
2006	Second Lebanon War 2006	
2007		State Comptroller publishes Report - recommendations for immediate changes after the Second Lebanon War 2006.
2009	Firefighters' Strike	Government discussions and examination of the decision by the Ministry of the Interior and the Ministry of Treasury.
2010	August - Fire in the Golan Mountains. Fire in Tel Aviv – Allenby Building	
2010	December - The Mount Carmel Forest Mass Disaster	Investigative committee and government decision following the Mount Carmel forest fire. The State Comptroller's Report: Preparation Fire and Rescue Service for Emergency.
2012		20.6.12 - State Comptroller's report published with the findings of the failure within the public services after the Mount Carmel Forest mass disaster.
2013		8.2.2013 - The National Fire and Rescue Authority now operating by force of the "2012 National Fire Authority" law.

The State Comptroller's Report regarding government policies and responsibility concludes that the degree of failure in this case is very high since most government officials understood that inaction has a harmful impact on the organization. The absence of policy was accompanied by not anticipating the future and not providing crucial resources for dealing with emergency issues on a daily basis. Since policymakers and leaders adopted a closed-eye strategy for a long time and ignored the deteriorating conditions, the organizational decline intensified. There was severe continued neglect by government



leadership, although its basic duty was to provide policies and avoid organizational decline and failure in these emergency public services (Default, Failures and Conclusions, Audit Commission, 2010; 505).

## BUDGET POLICY

In the public sector one major cause of organizational decline is reduced public finance and resources. As suggested by McKinley, Latham and Braun (2014), organizational decline is defined as a successive, year-after-year decrease in an organization's resource base that lasts for at least two years. As mentioned, in the public sector decline occurs in cases where at least some key stakeholders in the organization (employees, citizens and other beneficiaries) believe that it faces problems that seriously threaten its legitimacy, resource base or even its survival. Decline also implies a reduction of skills, capabilities and resources within the organization (Cameron *et al.*, 1998; Gillespie and Dietz, 2009; Mordaunt and Otto, 2004). In the case of the Fire Fighting Services government decisions led to low budgeting and reducing resources. As a result, the organization faced critical problems that negatively affected its capabilities and performance.

Analysis of the document regarding the Fire Fighting Services budget revealed that it was based on three financial sources: local authorities, self-generated income and the Ministry of Interior. It was found that over an entire decade the Ministry of Finance implemented a budget-cutting policy in many public emergency units. An audit report after the Second Lebanon War (2007) noted that the ability to improve preparations for emergency firefighting services depended primarily on the allocation of funds required, and on execution of organizational change. The systematic reducing of budgets endangered the survival of the organization in those years, adversely affecting its routine work.

Until 2012, the annual budget of the Fire Fighting Services of Israel was NIS 500 million. Only part of this amount, NIS 200 million, was provided by the state budget, and the rest came from two different sources: NIS 200 million from local authority budgets, and NIS 100 million from Fire Fighting Services fees and taxes (15% of the budget was based on fees, 35% was funded by the Ministry of the Interior and the remaining 50% came from local authorities). Although by law the state was required to pay 50% of the budget, it paid only 35%, while claiming that the Fire Fighting Services must complete the 15% through municipal grants. Ironically, the vast majority of the annual firefighting budget, 85% (NIS 425 million), was directly channeled to payroll expenses. The remaining 15% (NIS 75 million) was allocated for all other expenses, including property tax, construction, maintenance and purchase of new equipment (Research and Information Center Israeli Knesset, 2009: 4; Preparations of the Fire and Rescue Service for Emergency report, 2010:9).

The financial state of the firefighting agencies was affected by the fiscal and economic stability of local authorities. As a result, differences in solvency among local authorities caused obvious differences among regional stations as regards standard manpower, the number of fire stations, fire training and other critical resources. In this context, the Firefighting and Rescue Commissioner claimed that a major budgetary problem was the involvement of local authorities in funding firefighting in Israel. Since the authorities are both governmental and municipal, they are headed by the central government and by local governance. Also, the economic crises within local government authorities in Israel since 2004 worsened the situation (Research and Information Center Israeli Knesset, 2009: 6).

Shortage of human resources in the professional arena impairs the ability to provide daily services. In 2007, the basic standard for personnel services was 1,783 jobs, namely 1,532 for firefighters and 251 for administrative jobs, but in fact only 1,633 jobs were staffed – 1,375 jobs for firefighters and 258 administrative jobs. The main reason for that gap was local authority budgetary difficulties that did not enable them to finance the basic standard. In the short run, this gap created major damage in routine work and basic activities (Audit Report, 2007).

The cutback policies dramatically influenced organizational decline and, as documented, most of the fire stations across the country suffered from a shortage of resources, a reduction of skills and capabilities, and a lack of coordination between the units (Default, Failures and Conclusions, Audit Report, 2010). The paradox is that even five years after the extensive investigation of organizational conditions nothing had change. The fire department's weaknesses and inability to successfully cope with its duties during the 2006 Second Lebanon War were soon apparent. The next State Comptroller's report (2012) documented that the only significant step taken by the Ministry of the Interior was to decrease budgets temporarily, rather than learn the lessons of previous public reports and committees. In short, the main government policy was that of cutbacks.

## DISCUSSION

As the public-sector performance improvement agenda develops, and the problems of poor performance organizations come to the fore, so there is a need for theoretically based policy and management (Jas and Skelcher, 2005: 208). In light of this, the main goal of this paper is to illustrate how specific external causes in government and political policies intensify the decline and failure in public sector organization, particularly since less effort has been devoted by scholars to review or expose these topics (Amankwah-Amoah and Debrah, 2010).

Organizational decline in public sector organization is explained here as a successive, year-after-year decrease in an organization's resource base that lasts for at least two years. As McKinley, Latham and Braun (2014) suggest, a two-year period is a useful minimum time period for defining organizational

decline because it provides enough time for resource reductions to be noticed by managers and to evoke a response. The publicity data published by the State Comptroller, together with government reports and documents, were analyzed in light of that idea. The findings indicate that lack of public policy during three decades and an unsuitable budget policy significantly fueled organizational decline within the Fire Fighting Services in Israel. Over the years the government focused on writing reports and appointment of public committees to investigate conditions and circumstances, rather than actively coping with the decline and failure conditions. Although these official extensive works recognized the negative symptoms of the decline, no act was taken and the decline consequently intensified. Poor strategy was adopted by policymakers, and while committees studied the case they allowed a suspension of decisions and did not lead policy on this complicated situation.

Concerning organizational decline in the public sector, the literature is currently deficient. This paper suggests an initial formulation for such a theory of public sector decline by analyzing data from a case study in the Israeli public sector. This attempt may motivate future researchers to further conceptualize and rethink organizational decline.

## **IMPLICATIONS FOR PUBLIC POLICY AND DECISION MAKING**

Regarding government actions and theoretical policy, policymakers and politicians are all concerned about the impact of organizational decline and challenged to avoid such conditions among public services. On the practical level, however, they are required to make and implement decisions about the issue at hand. Concerning that policy decision process, "the irony is that, today, the primary threats to our survival, both of our organizations and of our societies, come not from sudden events but from slow, gradual processes; the arms race, environmental decay, the erosion of a society's public education system, [...] are all slow, gradual processes. [...] If we focus on events, the best we can ever do is predict an event before it happens so that we can react optimally" (Senge, 1990: 21-22).

The test case of the Fire Fighting Services in Israel showed that government inaction concerning organizational decline and its non-response strategies did not eliminate the fact of decay or mitigate its implications. These findings are relevant to policy makers who need to prevent decline and avoid failure within public services. Understanding the impact of these causes as well as addressing organizational decline in public services is beneficial and contributes to the wellbeing of society. The decisions that were reached, and the actions that were taken two years after the Mount Carmel mass disaster, and twelve years after the public committees' conclusions and two state comptroller's reports may provide an important lesson for public policy makers.

## LIMITATIONS AND FUTURE RESEARCH

There are two major limitations to the approach adopted here. First, the study was based on a single organization in a non-experimental setting. Therefore, the findings cannot be generalized beyond the scope of this study to other organizations in a similar environment. As such, future research should seek to replicate this study in other organizations to provide a better understanding of conditions that are common to declining organizations in the public sector. The second limitation relates to the fundamental difference between public and private organizations in terms of their goals, stakeholders, culture and processes. This implies that the findings and lesson from this study might not be generalizable to the private sector. For this reason, future research should seek to replicate the study in the other sectors to confirm the findings' applications and limitations.

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# IMPLEMENTING HEALTH INFORMATION TECHNOLOGY (HIT) TO IMPROVE SERVICE DELIVERY: THE CASE OF THE NEONATAL INTENSIVE CARE UNIT (NICU)

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## ABSTRACT

The study presents a real life case of developing an HIT package to support the management of a clinical department in a public hospital. The NICU of Hillel Yaffe Medical Center serves premature babies (born prior to week No. 37) until they reach the stage where they are mature and may return home and the community. The service of a NICU department is very complex due to the fact that in addition to treating the premature infant there is a very high involvement of the family members. The Service Concept of the department: our customer is the premature infant together with his parents. Thus, the concept's components include processes supporting this complex clinical environment as: Admission process controlled and measured by Yield measures (Medical Yield and Nursing Yield), family escorting process to support the family with updated data on a regular planned basis regarding the child clinical condition and training sessions prior to the child discharge. A computerized system was developed to support the management and control of all processes including a digital patient record. It created a paperless working environment. The various processes' Yields are presented to the staff (physicians and nurses) every month and a discussion is conducted to verify needed improvement and correction activities. Satisfaction surveys are conducted prior to discharge in order to get inputs regarding all the subjects related to the family's service perception while their child was hospitalized. Results show improvement of the various yield measures.

**Keywords:** *HIT, NICU, Yield, Healthcare, Management commitment*

## INTRODUCTION

One of the largest and fastest growing industries in the service sector is the health care industry. The healthcare system of a country is expected to meet the emerging challenges and caters to the health needs of the population effectively and adequately (Andaleeb, 2001).

Hospitals are information - intensive organizations which has to be carried out by using appropriate information systems. A hospital information system (HIS) is a computer-based system designed to facilitate the integrative management of the administrative and medical information within the hospital (Aggelidis and Chatzoglou, 2008).

Recent studies have stated a pronounced interest of healthcare executives and practitioners in taking service quality to a higher level, often adopting leading techniques in other industries. Therefore, a useful way to introduce the concept of managing service of special care units is to relate it to another well-known type of organizations, the management of manufacturing firms (Vitner et al., 2011). Applying the lessons learnt by manufacturers' efforts to improve their production processes can be transferred to healthcare, thus reducing a patient length of stay, providing a higher quality of care, maintaining hospital sustainability and raising patients' safety and satisfaction (Burge, 2008 ; Vitner, 2011 ).

The remarkable evolution of information technology (IT) over the past four decades bears a striking position in healthcare. As both a witness to and an active participant in this evolution, the healthcare industry moves into the future with ever-changing technology as its catapult. In IT's infancy, healthcare organizations could use technology to support limited payroll and accounting functions. Today, healthcare organizations can use technology for direct deposit of their payroll, remote patient monitoring, and remote delivery of diagnoses (Bernstein, et al., 2007).

Healthcare IT seeks to achieve a level of sophisticated interaction between provider and patient through the use of technology. Healthcare providers can incorporate patient data, test results, medication data, and treatment histories into a cohesive system to thoroughly evaluate each patient's health situation and determine the safest and most appropriate course of action. Similarly, from an administrative perspective, success in either the clinical or administrative domain requires collaboration between managers, end users, IT staff, providers, and patients. Each plays an important role in the successful and effective integration of IT in healthcare.

Several studies have reported evidence of the positive impact of HIT on healthcare quality, including lower mortality rates (Amarasingham et al., 2010 ) higher vaccination rates (Dexter et al., 2004) and patient safety indicators (Aron et al., 2010). In a widely cited study, Amarasingham et al.(2010) report that greater automation of hospital information is associated with reduced rates of inpatient mortality, complications, costs and length of stay, based on a study of older patients across a cross section of 72 hospitals in North Texas. Their results suggest that an increase in automation of electronic records is associated with a decrease in fatal hospitalizations, and higher rates of electronic medical order entry



were associated with lower rates of myocardial infarction and coronary artery bypass graft procedures, across all medical conditions. Appari et al. (2010) also report that hospitals with higher Electronic Health records (HER) capability perform better on healthcare process quality. HIT systems such as electronic health records and computerized physician order entry hold the potential to improve quality while reducing costs. In particular, they are designed to improve communication among the disparate providers within a health care organization (McCullough, et al., 2010). Bardhan and Thouin (2013), studied the impact of HIT applications, not only on hospital operating expenses, but also on the process quality associated with evidence-based measures for treatment of four major health conditions. Study results indicate a positive association between usage of clinical information systems and patient scheduling applications and conformance with best practices for treatment of heart attacks, heart failures, and pneumonia. Our results

Health care management of special care units is the process of identifying and administering the activities needed to achieve the customer-driven objectives of the hospital (Gryna et al., 2007).

A manufacturer develops a product from scratch according to customer or market requirements. In healthcare this is not the case. The patient is a given person and the staff has to specify his or her requirements. Care planning should involve similar steps. Only now, material type, for example, concerns the patient's physiological status and there are additional psychological and socioeconomic dimensions that should be considered.

In special care units the patient is the "product" while his family and friends is the "customer". The Committee on Pediatric Emergency Medicine of the American Academy of Pediatrics defines the patient and family – centered care as an approach to health care that recognizes the integral role of the family and encourages mutually beneficial collaboration and partnership among the patient, family, and health care professionals (Committee on Pediatric Emergency Medicine, 2007). Special care units may be related to Hi Tech organizations. These units usually operate the most advanced technologies and equipment. The random patient is the "product" to be tested, diagnosed and repaired, so that he or she may return to normal life in the community in the shortest time with minimum total costs.

In healthcare organizations it is common that the customer's voice is filtered through a screen of the organization's own internal concerns and needs (Chaplin & Terninko, 2000). In special care units, the voice of the customer can't even be heard in most of the cases, due to the fact that the clinical situation does not allow any communication channels with the patient. It creates an objective problem as the organization itself defines the customer's wants and needs while the customer is not involved and cannot give feedback. The organization designs and implements the functions and processes to treat

the patient; it creates the measurements to check performance and decides when the service is completed. The patient is a “black box” in an open loop system. Healthcare has evolved within a strong tradition of paternalism; the doctor or nurse knows what is best for the patient.

The purpose of this paper is to highlight the various aspects of HIT in healthcare focusing on the case of special care units.

## **METHODOLOGY**

### *The NICU Department*

The study was conducted at the NICU of Hillel Yoffe medical center. Premature infants are born before the 37th week. At present, there are cases where babies born after 24 weeks may survive. In 2015, 422 infants, 70 under 1,750gm, were admitted to the NICU. The average stay was 11 days, but in extreme cases a baby may stay up to 120 days. There are 20 incubators in the department; six equipped for intensive care. Forty physicians, nurses, physiotherapists and social workers care for the premature and sick babies and their families. The NICU “customer” is more complex than others because it combines baby and parents. The department gets all medical and logistics support from hospital various departments and units.

### *Department Head Leadership*

Management commitment is the most important issue when conducting an IT project. In our case, the department head decided to initiate the program in order to improve the ability of serving his patients and their families. It can be said that without his absolute dedication to this long journey we could not complete the project and start a new era in the department operations.

### *IT Project*

At the beginning we established few managing mechanisms to guide and support the program. A steering committee chaired by the department head was leading the program and process working teams conducted business process reengineering activities. Finally, an internal department team developed the computerized package to support the daily activities.

### *Steering Committee*

The steering committee chaired by the department head and assisted by the chief nurse contained eight members including physicians and nurses and was guided by an engineering consultant. The committee met on a weekly basis. A master plan with specific milestones was defined and controlled

weekly. The first activity of the steering committee was to develop the department's process infrastructure (see figure 1). Then, process teams of four members were established to define the detailed procedure of each process.

#### *Process Teams*

The steering committee defined twenty eight processes. Process teams were allocated for all the processes. A master generic procedure was guiding the teams in the development of the process procedure. Once a procedure was completed it was presented at the following week steering committee meeting in order to achieve a validated and agreed procedure.

#### *Business Process Reengineering*

When the program started there was no set of written procedures in the department. Written procedures were created including working instructions for all the activities in each process. It was accompanied with a detailed flow chart such that it could be the corner stone for the development of the IT system.

#### *Performance measurement*

The major processes were assigned with a detailed checklist. Each checklist was controlled periodically in order to verify the process yield. The yield is calculated as follows:

$$Y = \frac{\text{Number of items performed successfully}}{\text{Total number of items in the checklist}}$$

#### *IT System*

A computerized program was developed supporting all the activities of the department. Any staff member may use the system in order to verify the process details, working instructions or hospital guidelines. It enables the staff to create and update the patient record and to manage logistics activities. It supported the chief nurse to develop weekly schedules and manage the yearly training activities. It supported the management of facilities maintenance and enabled the physicians to write prescriptions. It may be said that the IT system created a paperless working environment.

## RESULTS

### *NICU Process Infrastructure*

There are 28 processes divided into broader activities: core medical and hospital administrative and logistics support (Figure 1). Core medical services are the process chain from admission to discharge. Administrative processes, supporting NICU's daily work and management, including: physician visiting; escorting families; shift change

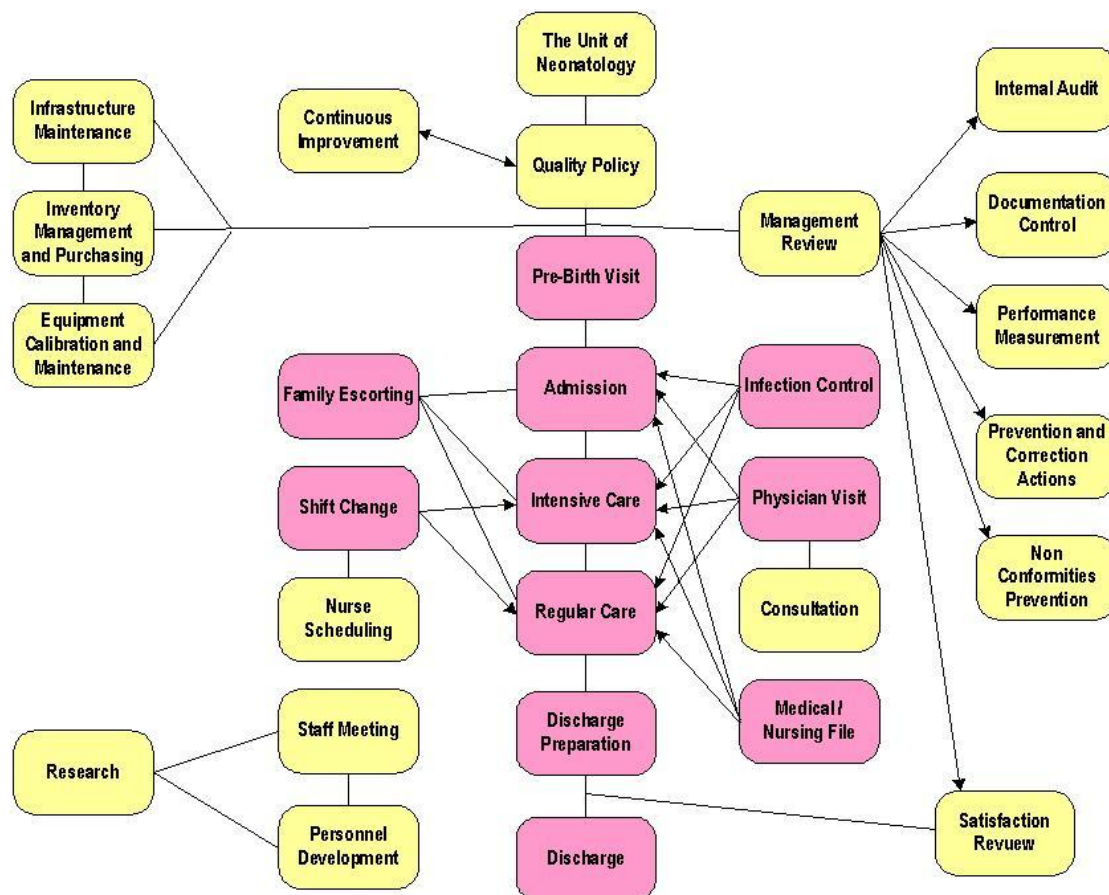


Figure 1. NICU process infrastructure

### *The IT System*

#### *Computerized system*

A computerized system included all processes and working instructions was developed. Every process interfaces with working instructions related to any stage and by clicking the keyboard it becomes available. Any form or file related to the hospital or the health ministry is available. In the department

there are several computers, which every staff member may use any time. All staff members received a compact disk with the quality manual so they may study the details in their free time.

### *Improving Service Delivery*

#### *Quality manual*

The quality manual contains the NICU department's 28 processes. Each process was documented according to a master document including definitions, process details, responsibilities and timing. Each process interfaces with working instructions that details specific activities (e.g. feeding procedure).

#### *Performance measurements*

The admission yield indicates how effectively the admission process was conducted. Periodically observing these yield results and trying to understand what may cause low yields, creates opportunities to improve the process. Figure 2 presents' admission process yields.

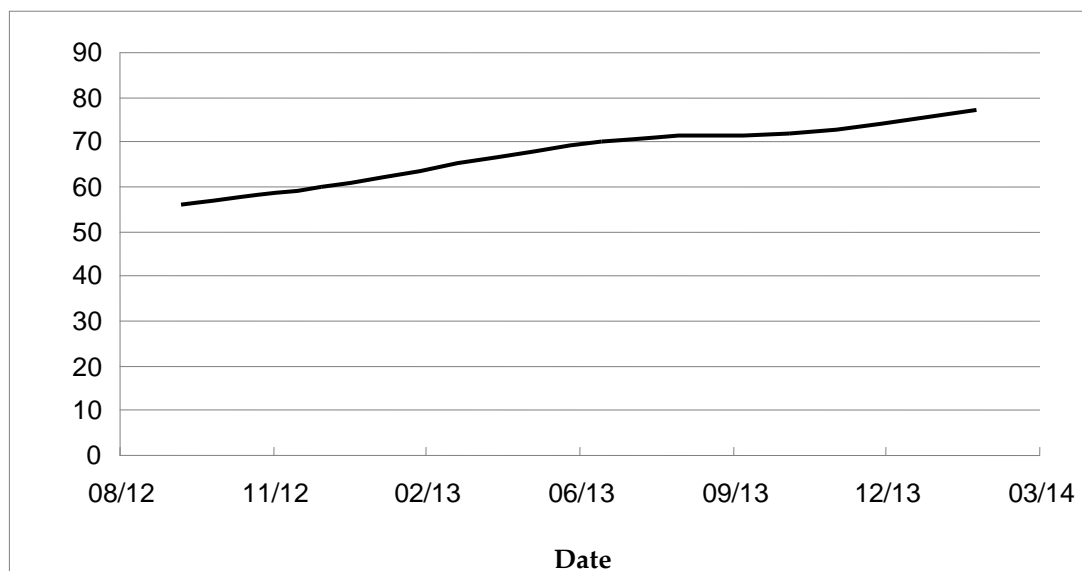


Figure 2. *Admission process yield*

Other interesting examples are mobile incubator and resuscitation trolley yields. The resuscitation trolley is needed in emergency cases when there is a call for a neonatal expert either from the delivery room or from the operating room. The trolley should be fully equipped and ready for use 24 hours a day. To keep readiness at a high level, we decided to measure this yield. Figure 3, illustrating results over 12 months, shows a significant gap between day shifts and night shifts, so managers decided to assign a team to study the issue and recommend improvements. Other measurements are based on

infant daily chart verification processes using checkpoints such as whether all procedures were performed by nurses and therapists; etc, involved in the treatment.

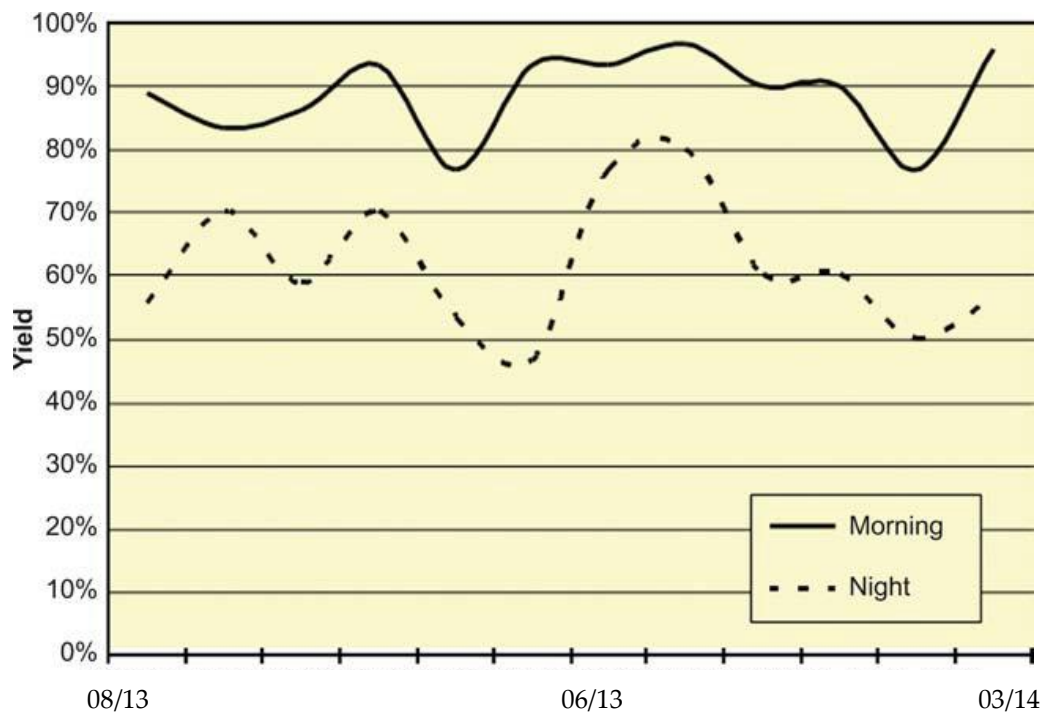


Figure 3. *resuscitation trolley yield*

#### *Service satisfaction review*

A satisfaction review was developed to get feedback from mothers and fathers. The survey is anonymous and takes place during the NICU discharge process. It covers all relevant aspects (17 questions using a 1-5 scale) related to the hospitalization period. Owing to family origins and to get the most reliable feedback, the satisfaction survey was available in three languages: Hebrew, Arabic and Russian. It enabled the department head to get objective information from families observing treatment and care over many days. Figure 4 presents satisfaction scores (a 3,939 item average) for 2014. We can see that 66 percent items scored 4.8 to 5 (the highest score).

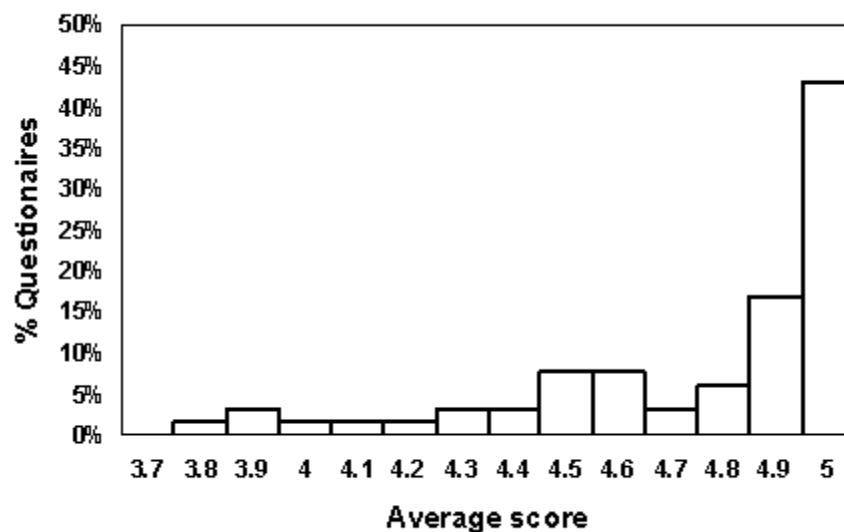


Figure 4. *Patients' service satisfaction score*

## SUMMARY

The paper presented an HIT program that was conducted in a clinical department of a public medical center. It was a successful project that was initiated by the department head who felt that a major change should be conducted in order to support the hard work of the staff members and to improve the service delivered to his patients and their families. A steering committee chaired by the department head was guiding the program which involved the entire staff members who were participating in process working teams. Performance measurements based on process checklists were developed allowing measuring the yields of the major processes. Yield measurements were presented and discussed in periodic staff meetings where preventive and/or corrective activities were created. A computerized system based on the detailed process procedures was developed enabling any staff member to get any needed data during the shift. Results show that the HIT package enables to operate the department paperless with higher reliability and improving patients' satisfaction.

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# EXTERNAL KNOWLEDGE SOURCING AND NEW PRODUCT DEVELOPMENT: EVIDENCE FROM THE FOOD AND BEVERAGE INDUSTRY

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## ABSTRACT

This paper analyses the role of external knowledge sourcing in the innovation process of firms from Food and Beverage industry (F&B) and the effects on New Product Development (NPD) performance. Regarding external knowledge sourcing in the open innovation context, we identify two types of sources, namely market-based and institutional-based sources. For a complete analysis of NPD performance, we employed the number of incremental and radical innovations introduced into the market, and the share of income from new products. Relying on data from 103 Italian firms operating in the F&B industry, results show that they actively engage in open innovation with strong ties with market-based sources, and that this strategy is positively associated with NPD performance and incremental innovation.

**Keywords:** *open innovation, external knowledge sourcing, new product development, food and beverage industry.*

## INTRODUCTION

Continuous and effective New Product Development (NPD) is widely recognized as a way to sustain competitive advantages, in the current scenario of globalization, hyper-competition and the rising of new technology (Bresciani, 2010). However, innovation required investments and usually lead to high risks. These and other enablers leaded firms to open their “boundaries” collaborating with other actors and external source of knowledge in order to share costs, ideas and technologies (Chesbrough, 2003). This is line with the open innovation model, according to which firms have to establish relationships with suppliers, customers, universities, and other external sources in order to accelerate innovation (Gassmann and Enkel, 2004). In recent years, this paradigm has aroused a lot of interest in both the academic and the industrial world. From this point of view, however, the open innovation effectiveness and the positive effects are evident only in certain industries such as high-tech (Chesbrough, 2006). In fact, among all the suggestions and ideas for future research found in the

literature, the relationship between open innovation and firm's innovation performance seems to be the topic that has attracted more interest.

Although the topic of innovation in Food & Beverage (hereafter F&B) industry is widely developed (Avermaete et al., 2004), still lacks empirical evidence of food companies engaging in open innovation (Knudsen, 2007). In fact, only few studies have contributed to this field (Sarkar and Costa, 2008; Enzing et al., 2011). The topic is relevant because the F&B is a very innovative and it is the largest manufacturing sector in Europe in terms of turnover and direct employment (FoodDrinkEurope, 2014). Furthermore, prior performance studies that assessed the effects of open innovation on firm's performance have generated mixed findings (Laursen and Salter, 2006; Belderbos et al., 2006; Un et al., 2010). This is mainly because most of them are conducted at firm level (Du et al., 2014), and because they focused on different industries and different countries. Moreover, previous studies have not thoroughly investigated the relationship between the different practices of open innovation and different kinds NPD performance. In fact, our study uses two measures of NPD performance. Hence, the purpose of this work is to analyse the effects of external knowledge sourcing on NPD performance in the F&B industry. Moreover, we consider two categories of external sources, namely market-based and institutional-based (Du et al., 2014). To reach this goal, we employed a quantitative method using several OLS regression models on a sample of 103 Italian firms operating in the F&B industry. Results show that firms are adopting external knowledge sourcing strategies and they are positively associated with NPD performance and incremental innovation.

The paper is structured as follows. First, we review extant literature on open innovation paradigm and innovation in the F&B industry. Next, we describe the method, the sample and the purpose of the research. Then, we analyse the impact of the open innovation practices on firms' innovation performance, through several OLS regression models. Finally, we summarise the conclusions of our analysis, draw implications for the future of open innovation in the food sector and highlight areas where more empirical research is needed.

## LITERATURE REVIEW

### *Open innovation and external knowledge sourcing*

In many industries, companies need to accelerate innovation by introducing new products quickly, limiting the costs and risks. This is mostly due to the increasing competition and the rising of new technologies. These and other factors have led to a new innovation model, namely "Open Innovation", which considers internal sources and external sources of knowledge for innovation of equal importance (Chesbrough, 2003). In particular, Chesbrough and Bogers (2014, p. 17) define it as "a distributed innovation process based on purposively managed knowledge flows across

organizational boundaries, using pecuniary and non-pecuniary mechanisms in line with the organization's business model". Furthermore, they should complement internal R&D with external knowledge, interacting with external individuals and organizations with formal and non-formal relationships (Laursen and Salter, 2006; Dahlander and Gann, 2010; Bresciani and Ferraris, 2014; Ferraris and Santoro, 2014). Thus, firms can build synergies adapting the organizational structure and the corporate culture, creating the internal conditions to better evaluate and integrate external knowledge and select the right partners (Cohen and Levinthal, 1990). Literature found two main flows of knowledge and technology (Gassmann and Enkel, 2004; Dahlander and Gann, 2010): a) Outside-in flow (inbound activities), identifying the search for innovative solutions and new sources of knowledge from external partners to incorporate those developed internally; b) Inside-out flow (outbound activities), bringing ideas to market selling IP and transferring technology and knowledge to other business models.

In such a framework, and focusing on the inbound open innovation aspect, among all the external source of knowledge and technology, literature identifies: a) market based sources; and b) institutional sources. Within the first categories fall suppliers, customers, competitors, R&D intermediaries (Laursen and Salter, 2006; Du et al., 2014; Bresciani et al., 2015). Institutional sources are represented by universities, research centres, trade associations, useful to access both tacit scientific knowledge (Cockburn and Henderson, 1998), and codified knowledge (Fabrizio, 2009).

Many scholar, focusing on external knowledge sourcing, usually define openness as the number of external sources used by firm in the innovation process (Laursen and Salter, 2006; Spithoven et al., 2013). More specifically, Laursen and Salter (2006) define this variable as "search breadth". In addition, the authors introduce the measure "search depth" in order to consider the intensity of the relationship with each source of knowledge. In this context, they showed that external knowledge sourcing is positively associated with innovation performance, but with an inverted U-shaped relationship.

Other scholar, define openness considering whether a firm establish cooperation with external sources (Fey and Birkinshaw, 2005; Vega-Jurado et al., 2009). Belderbos et al., (2006) found a negative relationship between the share of technological collaborations and firm's market value, suggesting that the potential advantages of collaborations may be lower than the consequent disadvantages (such as increasing coordination costs). Bengtsson et al. (2015) found evidence that breadth of the collaborations is negatively associated with innovation performance.

Finally, mainstream open innovation research focused on high-tech industries such as ICT and computers (Christensen et al., 2005) and little on specific industries such as F&D. For this reason, our

paper intends to fill this gap. The next literature section intends to focus on external knowledge sourcing and NPD process in the F&B industry.

#### *External knowledge sourcing and new product development in the Food & Beverage Industry*

The F&B industry is typically considered mature, slow growing and show low levels of investment in R&D compared with other industrial sectors (Sandven and Smith, 1993; Costa and Jongen, 2006; Rama, 2008). Moreover, since technological change in the F&B is largely technology-based rather than science-based, NPD is not related to R&D intensity (Martinez and Britz, 2000). Along with this, the rate of technological change in the F&B, measured by the number of patented inventions, seems less dynamic than other manufacturing sectors (Christensen et al., 1996). However, the needs of consumers have changed over time and this requires increasing innovation orientation. Thus, NPD in the F&B industry is the key strategic factor in a context of growing competition both at national and international level (Rama, 2008). Since product innovation can be considered the ability to introduce new products able to satisfy consumer's needs, it is high correlated to market orientation (Traill and Meulenbergh, 2002). In fact, consumers are increasingly demanding more product variety, with different tastes and dietary products (Costa et al., 2007). Due to the large number of actors in the value chain of firms in the F&D industry, along with the factors mentioned above, the innovation process must take into account both internal sources and external sources of knowledge to develop and market new products (Mikkelsen et al., 2005). In line with this, according to Capitanio et al. (2010), innovation process in the F&B is leveraged by internal (R&D investments, culture, values, human resources, organizational structure) and external factors (social embeddedness, institutional and market environment). For these reasons, we expect an increasing use of open innovation practices in this field, even if literature does not provide strong support. In fact, there are few qualitative contributions on open innovation in food industry (Sarkar and Costa, 2008; Thomke and von Hippel, 2006; Vanhaverbeke and Cloudt, 2006), and statistical support is still scarce. Nevertheless, Archibugi et al. (1991) underline how firms from the F&D industry rely more on external sources of knowledge than the average of all industries. Knudsen (2007) found that European firms operating in F&B sector are active in collaborating for product innovation purposes. Moreover, they prefer cooperate with market-based external sources rather than science-based external sources. As for the degree of innovation, many authors agree that the firms focus more on incremental innovations rather than radical innovations (Capitanio et al., 2010; Baregheh et al., 2012), and usually on packaging innovation (Grunert et al., 1997; Menrad, 2004). For these reasons, firms in this sector usually forge strong ties with market-based sources such as customers, suppliers and distributors (Enzing et al., 2011). Customers and distributors are important sources to get market information, while competitors'

products can be easily analysed since their IP is not protected and this could be an available source of new products ideas (Enzing et al., 2011).

Within qualitative research, Huston and Sakkab (2006) show how acquiring a technology from a strategic partner has enabled P&G to decrease product development costs and the time of introduction of the product into the market. Literature also shows that firms in the F&B industry can engage in open innovation in order to achieve product differentiation and improve competitiveness (Sarkar and Costa, 2008).

For these reasons, we expect that firms from F&B industry are active in external knowledge sourcing, and this strategy leads to better NPD performance, in the extent of the number of incremental (rather than radical) product innovations and the share of income from new products. In addition, we can predict that the market-based sources are those that lead to better NPD performance.

## METHODOLOGY

The main purpose of this paper is to analyse the effects of open innovation practice on NPD performance in the F&B industry. To reach this goal 1000 Italian firms operating in the F&B industry were randomly selected from the database AIDA-Bureau Van Dijk. Then, a semi-structured questionnaire was sent to the CEO and R&D managers of each firm, which was answered by 103 respondents (response rate of 10.3%). The data collection was carried out in the 2015.

The questionnaire was divided in two parts: the first, investigates general information about the firm, including firm values and strategy, and economic/financial data such as revenues, R&D expenses, share of income from new products; the second investigates the product development process, with focus on external knowledge sources. The firms in the sample operate in the F&B industry and they are active in the production of fresh food, beverage and preserves.

Several ordinary least squares (OLS) regression models has been employed in order to test the relationship between several open innovation strategies and innovation performance, in line with previous study on open innovation (Lichtenthaler, 2009; Parida et al., 2012).

To measure the NPD performance of each firms (dependent variable), we used two variables in line with many previous studies (Griffin and Page, 1993; Laursen and Salter, 2006; Parida et al., 2012; Spithoven et al., 2013; Visser et al., 2014; Ahn et al., 2015; Brunswicker and Vanhaverbeke, 2015):

- a) the share of income from new products and services (introduced in 2012-2014) on total income of the year 2014;
- b) the introduction of incremental and radical product innovations into the market. In particular, respondents were asked the number of radical and incremental product innovations introduced in 2014.

Using both number of innovation (incremental / radical) and income from new products, is an effective way to understand the company's ability to develop new products, and to translate this ability in financial revenue (Atuahene-Gima, 2005). In order to classify product innovation, we followed Bessant and Tidd (2007), according to which incremental product innovation is something improved from the previous version, while radical product innovation results in something brand new.

External knowledge is the independent variable. In order to measure it, we asked respondents to assign a value of importance in using external sources (with a five-point Likert scale), counting and summing only those with a score of 4 or 5. In this context, previous studies focused on the concepts of search breadth (number of sources) and search depth (intensity of each source) (Laursen and Salter, 2006). In our work, we consider only sources that received 4 or 5 points on the Likert-scale, to include in the analysis only those deemed important in NPD process.

Finally, several variables were controlled. First, the R&D intensity (expenditures by a firm on its research and development divided by the firm's revenue) is recognized as measures of absorptive capacity (Cohen and Levinthal, 1990). In particular, internal R&D acts as a source to develop new products, but also to better manage external ties and knowledge acquisition. Second, the firm age can influence the innovation outcomes (Mazzola et al., 2012). In fact, the firm's age may affect the likelihood of having accumulated knowledge, experience and strong networks. Third, firm's size can further emphasized the absorptive capacity due to the increased availability of financial, human and organizational resources (Drechsler and Natter, 2012).

Table 1: Descriptive statistics

	<b>N</b>	<b>Min</b>	<b>Max</b>	<b>Mean</b>	<b>S.D.</b>
<i>Size</i>	103	22	523	158.00	151.860
<i>Age</i>	103	6	163	42.71	36.328
<i>Income from new products</i>	103	0	42.00%	12.77%	8.17%
<i>Nr. Market-based sources</i>	103	0	4	1.44	0.88
<i>Nr. Institutional Sources</i>	103	0	3	0.58	0.79
<i>External knowledge</i>	103	0	5	2.02	1.20
<i>Nr. Radical Innovations</i>	103	0	3	0.36	0.59
<i>Nr. Incremental Innovations</i>	103	0	6	1.26	1.05
<i>R&amp;D intensity</i>	103	1,03%	13.56%	4.51%	2.77%

## RESULTS

Table 1 shows the descriptive statistics of the sample, with minimum and maximum values, mean and standard deviation. It consists of 103 Italian firms from F&B industry. The average R&D intensity (4.51%) indicates that firms surveyed do not invest large amount in internal R&D activities, in line with literature (Costa and Jongen, 2006). In addition, the average number of employees is 158. Finally, the average age of the sample is 42.71. *Table 2: OLS regression models*

<b>independent variables</b>	<b>model 1 (dependent variable: income from new products)</b>	<b>model 2 (dependent variable: income from new products)</b>	<b>model 3 (dependent variable: radical innovation)</b>	<b>model 4 (dependent variable: radical innovation)</b>	<b>model 5 (dependent variable: incremental innovation)</b>	<b>model 6 (dependent variable: incremental innovation)</b>
<i>External knowledge</i>	0,512 (0,615) ***		0,186 (0,059)		0,600 (0,088) ***	
<i>Market-based sources</i>		0,454 (0,734) ***		0,174 (0,072)		0,475 (0,106) ***
<i>Institutional-based sources</i>		0,215 (0,917) *		0,064 (0,090)		0,338 (0,132) *
<i>R&amp;D Intensity</i>	0,150 (0,220) *	0,170 (0,220) *	-0,04 (0,021)	0,005 (0,022)	0,027 (0,031)	0,036 (0,014)
<i>Size</i>	0,165 (0,005)	0,210 (0,005) *	-0,135 (0,000)	-0,113 (0,000)	-0,021 (0,002)	-0,026 (0,001)
<i>Age</i>	-0,117 (0,018)	-0,102 (0,017)	0,144 (0,002)	0,152 (0,002)	-0,046 (0,001)	-0,014 (0,003)
<i>R<sup>2</sup></i>	0,462	0,480	0,043	0,047	0,337	0,341

\* $p < 0.05$  \*\* $p < 0.01$ ; \*\*\* $p < 0.001$

Source: own elaboration

Note: Estimates are beta coefficient and standard errors are in parentheses.

Analyzing the descriptive statistics, it appears that firms of F&B industry constantly rely on external source to introduce new products. On average, they incorporate 2.01 external sources in the innovation process. For what concern the categories of the external sources, firms in the sample prefer market-based sources rather than Institutional sources, as highlighted in literature (Martinez and Britz, 2000). In fact, on average, firms rely on 1.44 market-based sources and 0.58 Institutional sources.

In order to investigate the nature of open innovation in F&B industry six regression models were used as presented below (Table 2), all tested on the final sample of 103 firms.

Summarizing, results (showed in Table 2) suggest that the adoption of external knowledge sourcing strategy in innovation positively influence NPD performance in F&B industry.

In particular, MODEL 1 indicates that External knowledge (the independent variable) has a strong and positive impact on innovation performance in the measure of income from new products (0,512,  $p < 0,001$ ). MODEL 2 show in detail that Market-based sources are positively associated with income from new products (0,454,  $p < 0,001$ ), as well as Institutional sources but with lesser extent (0,215,  $p < 0,001$ ). In addition, MODEL 3 and 5 show how External knowledge is positively associated with incremental innovation (0,615,  $p < 0,001$ ) but not with radical innovation.

Finally, MODEL 6 underlines that, since External knowledge is positively associated with incremental innovation, market-based sources have a stronger effect on innovation performance than institutional sources (respectively 0,475 with  $p < 0,001$ ; 0.338 with  $p < 0,05$ ).

Finally, we observed that firm's size and age do not have significant effect in the models, and that internal R&D is significantly and positively associated with innovation performance but only with "turnover from new products" as dependent variable.

## DISCUSSION AND CONCLUSIONS

This paper has analysed the role of external knowledge sourcing of firms from F&B industry and the effects on New Product Development (NPD) performance.

Results show that firms of the sample are increasingly incorporating external sources of knowledge in the innovation process and this strategy lead to higher innovation performance both in term of income from new products, and the number of incremental innovation developed. This provides some interesting managerial implications. First, due to the hyper competitive environment that affects the F&B industry, including fast changing customer needs and tastes, and due to the low level of R&D investment in the sector, firms need to open up their "innovation boundaries" in order to develop and introduce products more quickly, efficiently and with lower risks of failure. Strategically, incorporating external sources can also be a response to the increasing competition from emerging countries due to business and technological innovation. Therefore, external knowledge sourcing could be a vital strategy in order to develop incremental innovation. This is strongly supported by our data that show that R&D intensity is not significantly associated with NPD performance. Second, results underline that firms in F&B industry mostly rely on market-based external source rather than institutional sources (Knudsen, 2007), and this leads to higher NPD performance with relation to incremental innovation. This is because traditionally F&D industry is contingent to the role of final



demand and technological change driven by suppliers. This also stress the importance of changing consumer taste and requirements that must drive the firm's innovation process (Christensen et al., 1996). Firms (not only in the F&B industry) have recognized the key role of customer engagement in the innovation process, tapping more and more in customer's ideas and knowledge, and the NPD process is closely linked to the characteristics of food demand. Thus, knowledge directly provided by customers (also suppliers and competitors could give important information on customers' needs), may help firms to assess needs reducing the risks associated with products failure (Ogawa and Piller, 2006). Incorporating customers in the innovation process is the key for recognizing emerging and changing needs and to sustain competitive advantage. This approach is closely linked to the development of incremental innovations, as shown by the regression model results. Along with this, within market-based source, suppliers' involvement is positively associated with NPD performance. In fact, suppliers can contribute to the innovation process with specific capabilities and technologies (Hagedoorn, 2002).

This study, of course, has some limitations. First, it points out that certain of open innovation strategies are closely related to NPD performance, but does not explain in detail which customer and suppliers engagement practices are most effective and what are the internal organizational adjustments to be adopted to facilitate the absorption of external knowledge. Second, the sample includes only Italian firms; therefore, the results could be influenced by local contexts. From this point of view, it would be interesting to make a comparative analysis between two or more country, by considering control variables that take account of country-level peculiarities. Third, we find that openness leads to higher income from new products, but our regression models do not take into account the costs related to open innovation. In fact, they could increase more than proportionally.

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## **FAMILY BUSINESS RESPONSIBILITY AND ALLOCATION OF PROFIT AND OPENNESS TO INNOVATION**

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### **ABSTRACT**

The paper presents an original concept of *family business responsibility* as a principal link between business and family spheres and as a distinguishing feature of a family business against the backdrop of non-family businesses in the context of Hommes and Blau's social exchange theory. The empirical part of the paper features a two-stage research methodology for the concept in question, based on a sample of 420 family businesses with the results discussed and presented in its final part. One of the distinct features of family business responsibility, namely the chosen direction of company profit allocation, was subject to an in-depth analysis.

**Key words:** family business, family business responsibility, openness to innovation

### **INTRODUCTION**

Observing behavioral patterns in members of a business family both in family and business circles leads to the conclusion that introducing a change, like succession is a difficult process as it meets, irrespective of the kind of change, a multi-layered resistance. Succession is one of the variables inscribed in the functioning of multigenerational family businesses. The positive course of succession is shaped by many factors [Aronoff, Ward, 1995; Cascio et al., 1997; Rothwell, 2002; Mandl, 2008]. One of them (thesis of the author) is the responsibility of the family business. This thesis and analysis of the context of behavioral actions of family businesses in the Polish conditions led to the definition of the empirical objective. The main objective of the topic be undertaken is to find factors related to the transfer of generational family businesses related to the responsibility of the family for the business sphere. Identification of factors was considered the specific objective to develop.

### **BEHAVIORAL BASIS OF REFLECTION**

Behaviorism, as a trend in psychology in the 20th century, assumes that all analyses of phenomena should stem from the observation of human and animal behavior. Management sciences borrowed

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from behavioristic concepts, particularly utilitarian ones, the notion of reinforcements, i.e. reward and punishment. The modification of basic behaviorism ideas by theorists such as Frazer, Malinowski, Mauss and Levi-Strauss allowed to develop an exchange theory in sociological terms, which is expressed in a few generalizations [Turner, 1991]. One of them is the idea of creating welfare: (1) "In a given situation organisms will exhibit a behavior which brings as many rewards and as few punishments as possible". Another paradigm of the behavioral attitude is reward satiation: (2) "The more rewards an organism gets as a result of a specific behavior the less rewarding this kind of behavior becomes due to reward satiation. An organism will be more likely to exhibit an alternative behavior to seek other rewards" [Turner, 1991]. Both of the presented research generalizations may be implemented in the area of research on family businesses. If the operation of a business is viewed in the same way as it is viewed by organisms [Spencer, 2006], then family businesses, as it is observed by the author, record a tendency towards establishing welfare (1) between family and business spheres, when one sphere expects the other to provide reinforcements connected with two types of goods: financial means and time. An example might be the choice of the direction of financial means allocation (geared towards a business vs. geared towards a family or devoting time towards meeting business needs vs. family needs). The key factor out of those listed for effecting succession in family businesses is to maintain equilibrium between allocating profit to business expansion and satisfaction of family needs. Type two behavior (2) pertains to the issue of gathering positive reinforcements geared towards the satisfaction of both spheres of family business activity, which may result in lowering interest in co-participating in the development of both spheres. In the situation when the owner of a firm does not gain financial or non-financial benefits out of managing a firm, he/she may seek the satisfaction of their needs outside the business sphere. It may bring about a relaxation of internal relations and transfer managerial responsibility to other people. The situation when the family sphere expects a continuous increase in outlays for ever-growing needs may lead to consuming the profit and in consequence to lowering the competitive edge through the lack of developmental investments. In both cases the consequence might be the dissolution of a firm or inability to effect succession.

## **FAMILY BUSINESS RESPONSIBILITY**

In the opinion of Polish researchers, a deciding factor in the discussion about family businesses is processes which take place in family-business areas and which allow to carry out succession often considered as the *sine qua non* condition for defining a business as a family one [Safin, 2007]. A clear definition of factors responsible for successful succession becomes a challenge which is hard to deal with due to not only a wide variety of enterprises but also different personalities of owners, family

members and successors. Moreover, what also needs to be taken into account is a broadly defined context of a business, the close one – employees, clients, competitors and the distant one – local and national policies, legal and economic conditions, regional culture, etc. [Safin, 2015]. In properly prepared family businesses under Polish market conditions, the latter decade of the 2000s will either be the time of succession or the time of sale or dissolution once owners have retired [Więcek-Janka, Mierzwiak, Kijewska, 2016].

Analyzing the course of succession processes is connected with the mutual interaction of internal forces of a family business. Lansberg and Astrachan [1994] point to two systems: family and business where the family interest being at one with the business interest leads to activities for the benefit of succession. In the model featuring three systems apart from the two systems listed above, there is a system of individual interests. According to the author, taking no heed of personal needs, aspirations and value systems may destroy not only the succession process but also the functioning of the remaining two areas of a family business. The third area of a family business may be considered in relation to a successor or successors, which is often connected with trust they can inspire in founders [Więcek-Janka, 2013] and their willingness to retain decision-making power and control over the business activity [Kujawińska, Fogt, Wachowiak, 2015]. Such a conservative behavior may be a result of apprehension that decisions concerning the firm's transfer might turn out to be erroneous, which raises psychological costs on both parties involved in succession [Sharma, Chrisman, Chua, 2003]. There are also more complex concepts. The approach by Bienert and his team [Safin, 2015] is of particular importance to this paper. The approach states that the functioning of a family business, its success and chance of a good succession lies in harmony and convergence of business aims with individual aims of family members. While conducting research on the so-understood harmony, success factors responsible for harmony in family businesses were identified. They include: economic factors, psychological factors, legal factors and fiscal factors [Więcek-Janka, Mierzwiak, Kijewska, 2016; Safin, 2015; Hamrol, Kowalik, Kujawińska, 2011].

The harmony factor was recognized by the author of the article as particularly important, especially in the context of the exchange theory, which became a basis for tackling research problems and refers to "the exchange theory" considered in the way it is treated by Hamanas and Blau [Turner, 1991]. It specifies a mutual influence of benefits and costs in a given exchange relation. If the operating norms are thrown out of balance, the party experiencing dissonance may show passive behaviour or even aggression. Similar situations are encountered by observers of succession processes in Polish family businesses when succession-related decisions are taken without due preparation, are excessively prolonged or become complex because of relating to a large group of successors. Blau also notes the possibility of conflict emergence when the development of equilibrium in one type of relation may

disturb the harmony of the other. The author analyzing the succession experiences of Polish family businesses notices difficulty in maintaining appropriate relations with all stakeholders of family businesses during the generational change [Więcek-Janka, 2011].

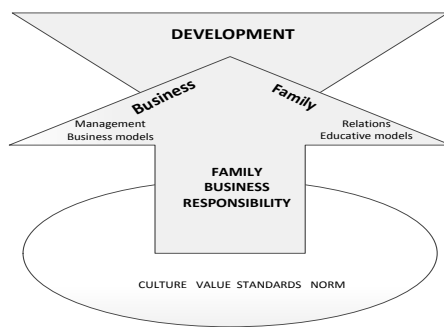
One can notice in succession processes the existence of another regularity connected with the exchange theory, namely “social attractiveness” [Turner, 1991], which has a strong bond with perceiving the benefits of remaining and rendering services to a given unit or group. The owner’s decision to transfer the business and the successor’s decision to accept it bear the symptoms of social exchange encumbered with additional expectations connected with family-business culture and observing the value system developed by predecessors. Both the doyen and the successor hope that the exchange transaction will bring them expected fruits. Blau [Turner, 1991] presents the hierarchy of the benefits of exchange, which include: power, respect, social acceptance and money. Exercising power allows to subject others to one’s own aims which, in the case of succession, is of great significance as beneficiaries (successors) do not have the possibility to use coercion measures or opposition to benefactors (at least not during the succession process). There may also be another type of behavior connected with the business owner’s inability to give up managing the business and transferring it to next generation. The process getting increasingly long causes the potential successor to cease being interested in taking over the family business. The remaining benefits mentioned by Blau (social acceptance, money and respect) may be relatively easily obtained outside work in a family business. Hence, according to the author, the possibility to make other people compliant and thus exercise control over them is a decisive factor in lengthy succession processes in Polish family businesses.

Dwelling on the rule of reciprocity, which says that “we are obliged to return favours after people do favours for us”, we can state that:

The multi-annual upbringing process in business families allowing for family values and entrepreneurial behaviour requirements may contribute to perceiving by successors benefits resulting from taking over family businesses;

The development and implementation of ethical business models in the operation of family businesses will increase the value of succession in the eyes of successors.

The analysis of the collected premises allowed the author to present and analyze a preliminary model of family business responsibility. The author assumes that there is awareness of activities, both business-related i.e. operational and strategic activities contained in business models and family-related which should be understood as conscious decisions and educational activities accounting for social norms, universal and family values.

**Figure 1. Model treatment of family business responsibility**

Source: own elaboration

Business family responsibility should be regarded as the behavior of a conscious balance between the sphere of family life and business operations. The combination of two areas of decisions and activities including individual requirements of individuals and the remaining stakeholders will be possible through the implementation of family business responsibility postulates. The concept of *family business responsibility* (FBR) shows intellectual debt towards the accomplishments of the exchange theory as treated by Hommes and Blau [Safin, 2015]. According to the author, a responsible family, in the accepted upbringing model<sup>1</sup>, voluntarily takes account of the developmental aims of a business model<sup>2</sup> hoping that it will obtain particular benefits (e.g. financial, security, succession of ownership and power, etc.). Meeting such assumptions becomes a basis for building a multi-generational family business.

## RESEARCH METHODOLOGY

Undertaking research on family business responsibility became a basis for developing a methodology adjusted to the specific character of family businesses. The research was conducted in two stages: an expert interview and a survey [Więcek-Janka, 2015].

The first stage comprised an interview with 6 experts<sup>3</sup>. The aim of the study was to identify variables affecting family business responsibility in family enterprises. The selection of experts for the interview was intentional. The second stage aimed to assess variables affecting the shape of family business responsibility in Polish family companies.

The population unit represented by the analyzed sample was a family business understood as *a business in which the majority of decision-making rights are in the possession of the natural person(s) who*

<sup>1</sup> The upbringing model is understood as a process of shaping human personality which covers social culture (including family culture), social structure, personality, adopted (also imposed) social roles, attitudes, needs, self-evaluation and the resulting behaviour.

<sup>2</sup> The business model is understood as a long-time strategy which covers the use and expansion of resources in order to obtain and maintain a competitive advantage.

<sup>3</sup> The experts were involved both academically and practically in family business activity: three scientists and three family entrepreneurs. The first stage of the research was carried out in January and February 2015.



*established the firm, or in the possession of the natural person(s) who has/have acquired the share capital of the firm, or in the possession of their spouses, parents, child, or children's direct heirs, moreover at least one representative of the family or kin is formally involved in the governance of the firm*<sup>1</sup> through the owner or co-owner.

The analyzed population was assessed on the basis of information concerning the number of family businesses as 41.4% of the total number of firms in Poland [Jeżak, 2014]. The size of the analyzed population was 1 172.4 thousand family businesses. The size of the sample obtained during the research was greater than the assumed minimum one which allowed to generalize analyzes<sup>2</sup> and was at the level of 422 family businesses. In order to efficiently conduct the research, a survey method was adopted and was carried out along three paths using CATI (*Computer Assisted Telephone Interview*)<sup>3</sup>, PAPI (*Paper & Pen Personal Interview*)<sup>4</sup> and CAII (*Computer Assisted Internet Interview*)<sup>5</sup>. The collected material was analyzed in the form of tables, discussed and verified. Two questionnaires containing errors were excluded from the whole set of questionnaires collected. The remaining 420 questionnaires were used in the statistical analysis.

## RESULTS ANALYSIS

During the first stage of the study six in-depth expert interviews in three rounds were conducted. Their main aim was to identify variables allowing family businesses to combine family and business areas with the perspective of successful succession in the future. The list of variables obtained<sup>6</sup> comprised several points, which were narrowed down to a few ones in discussions with the experts. Table 1 contains variables singled out in the first stage of the study, which allow – in the experts' opinion – for coexistence and synergy in the development of family businesses.

**Table 1. Results of the first stage of the research – expert interview**

Abbreviated	Marking a feature in the research
Allocation of profit to enterprise development	APED
Allocation of profit to family development	APFD
Family decision-making takes into account the interests of the enterprise	FDB
The family takes the time to improve business organization	FTO
Employing on the basis of merit	EBM
Engaging the family in the construction of the enterprise's strategy	EFbS
Raising children in entrepreneurship	RCE

Source: own elaboration

<sup>1</sup> def. *European Family Business Foundation*

<sup>2</sup> The minimum sample was 383 firms, with  $\alpha=0.05$ ,  $b=0.05$  and  $p=0.5$ .

<sup>3</sup> The CATI method was used to conduct research with 75 respondents.

<sup>4</sup> The PAPI method was used to conduct research with 67 respondents.

<sup>5</sup> The CAII method was used to conduct research with 280 respondents.

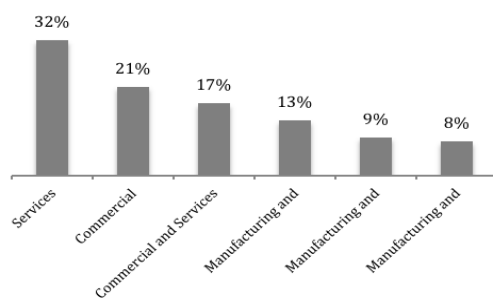
<sup>6</sup> Variables understood by the author as features, behaviour and decisions which can be generalized and which are observed in family businesses.

The preliminary analysis of the collected material – in the second stage – concerned (apart from the main aim) the recognition of the studied population structure. A particular interest was attached to the following features: size of the business, type of business, legal form, generation managing the business, and gender of the person managing the business.

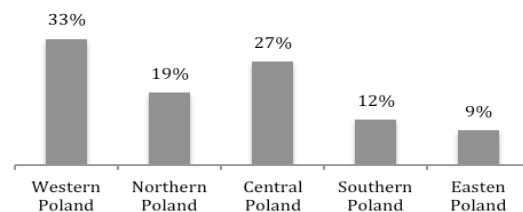
One of the research assumptions was to secure the representative character of the study. The research was conducted in all regions in Poland<sup>1</sup>, and the results are presented in figures 3 – 9.

In Jeżak's research [2014] one can note a similar distribution of the sample in relation to family business activity. Services were identified as the most frequently realized form of family business activity (46.9%). In the research conducted a "pure" form of services was declared by 32% of respondents, but the other 26% stated that services were an important part of business activity. Commercial activity in the presented sample was declared by 21%, but the remaining 30% realize it as an additional activity. In Jeżak's research [2014] close to 40% of respondents declared commerce as the main business activity. Manufacturing activity and industrial processing were declared by 8% of respondents, which exactly reflects the distribution of results in Jeżak's research [2014].

**Figure 3. Declared business line in the studied sample (n=420)**      **Figure 4. Distribution of analyzed family businesses in Poland (n=420)**



Source: own elaboration



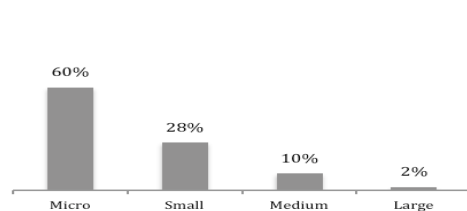
Source: own elaboration

The representative sample accounted for differences in the size of a firm, understood as the number of people employed. Jeżak's research comprised firms which did not have any people employed (50%). The present paper had this category classified as microenterprises which made up 60% of the analyzed firms (number of people employed – up to 9). In turn: 28% were small firms employing from 10 to 49 people, 10% medium-sized firms employing from 50 to 249 people, 2% were large firms employing over 250 people.

<sup>1</sup> The regional division was as follows: eastern Poland (Podlaskie Region, Lublin Region, Subcarpathian Region), southern Poland (Opole Region, Silesian Region, Małopolska Region), central Poland (Kuyavian-Pomeranian Region, Masovian Region, Świętokrzyskie Region), northern Region (West Pomeranian Region, Pomeranian Region, Warmian Masurian Region), western Poland (Wielkopolska Region, Lower Silesian Region, Lubuskie Region).

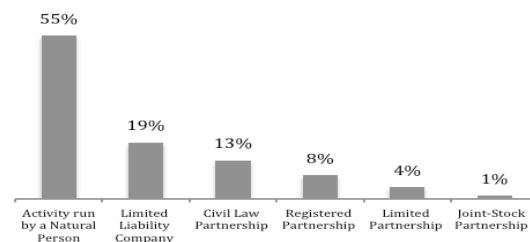
In accordance with the distribution of enterprises operating in Poland, small and medium-sized enterprises were represented by 98% of firms. The most popular legal form declared by respondents was a registered business activity run by a natural person (55%), limited liability company (19%), civil law partnership (13%), registered partnership (8%), limited partnership (4%) and joint-stock partnership (1%).

**Figure 5. Size of family businesses in the analyzed sample (n=420)**



Source: own elaboration

**Figure 6. Legal form of business activity declared in the analyzed sample (n=420)**

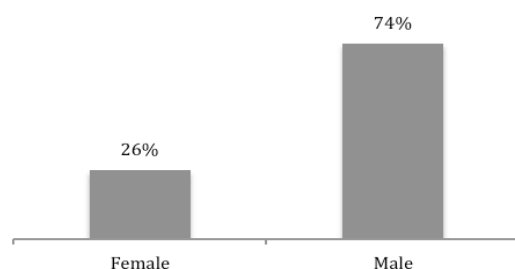


Source: own elaboration

A large percentage (68%) of legal forms such as a business run by a natural person or a civil law partnership is a sign of lack of knowledge about possible benefits and losses resulting from a given legal form. As it is shown by the quoted data, the most often an entrepreneur is a natural person as it is the easiest way of running a business.

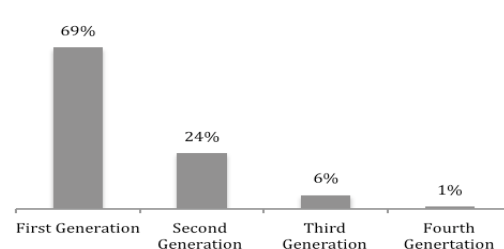
Another important feature which was analyzed was the gender of the current owners of family businesses. The structure of the obtained data is illustrated in figure 7. Female owners made up 26% of the sample. Another important feature specifying family businesses in Poland is the generation exercising authority in family businesses. A large majority of enterprises has not gone through succession yet (69%). It turns out that 24% of family businesses are run by the second generation, 6% by the third generation, 1% by the fourth generation.

**Figure 7. Managers in the studied sample according to gender (n=420)**



Source: own elaboration

**Figure 8. Managing generation in the studied sample (n=420)**

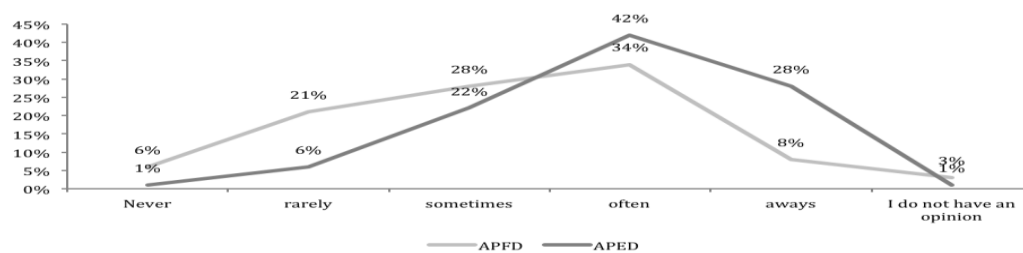


Source: own elaboration

The excerpted sample has a similar structure to the material that Jeżak and his team obtained in 2014, which allows the author to draw statistical conclusions regarding *family business responsibility*. In the detailed analysis – for the purpose of this study – a particular attention was paid to first two

features of *family business responsibility*, which were activities connected with profit allocation (APFD, APED). The activity of owners and chief managers of family businesses were evaluated on the scale ordering the frequency of their occurrence. The following expressions were used as parameters: “it never happens to me”, “rarely”, “sometimes”, “often”, “always”, and “I do not have an opinion”. One of the factors singled out by experts which has an influence on the stable development of both spheres of a family business is the way of dividing profit between family needs and developmental needs of a business. The results are presented in figure 9. Only 7% of the analyzed businesses declare that they never or rarely spend profit on business development, which corresponds with the results of 27% of firms in which it is declared that revenue is never or rarely spent on meeting family needs. Almost 28% of entrepreneurs declare that they sometimes invest acquired profit in family development, whereas 22% of owners sometimes invest in business development.

**Figure 9. Distribution of answers for one of the variables describing family business responsibility (profit allocation, n=420)**



Source: own elaboration

Data collected in this part of the analysis should not raise doubts. It should be remembered that a great majority of respondents were owners of microbusinesses where the border between the business sphere and family sphere is sometimes very narrow. Hence, the differences in the obtained answers were so small. Significant differences, however, may be observed in declared behaviour for results *often and always* (...spend the profit made on the development of a business/family). 70% of entrepreneurs stated that they allotted profit to the development of the business sphere, whereas 42% stated they allotted it to the development of the family sphere.

## DISCUSSION

Trying to provide a fuller explanation of activities connected with profit allocation in family businesses, an attempt was made to identify interdependencies between dependent variables and independent variables [Kujawńska, Więcek-Janka, 2010].

The main hypothesis, which became an introduction to further analyses, assumes that family businesses consciously allocate profits to company development and satisfy family needs. This

assumption is complemented by seven auxiliary hypotheses in which it was essential to recognize relationships between dependent variables (allocating profit to the development of the business sphere/satisfying family needs) and independent variables (enterprise metrics):

1. Profit allocation (PA) is connected with the age of a business (AB).
2. Profit allocation (PA) is connected with the size of a business (SB).
3. Profit allocation (PA) is connected with the owner's gender (OG).
4. Profit allocation (PA) is connected with conscious investment planning (IP).
5. Profit allocation (PA) is connected with children's entrepreneurial engagement in the business sphere (EE).
6. Profit allocation (PA) is connected with business-related conflicts (B-RC).
7. Profit allocation (PA) is connected with family-related conflicts (F-RC).

Each of the auxiliary hypotheses made was broken into two detailed ones connected with the place of profit allocation (here: business – B or family - F). A chi-squared test was used as a verifying tool of the hypotheses made. As a result of that, each detailed hypothesis was divided into next two ones: the null hypothesis stating there is no relationship between the analyzed variables and the alternative hypothesis stating there is a relationship between them [Więcek-Janka, 2015]. The test results for the detailed hypotheses are contained in table 2.

**Table 2. Test results for auxiliary hypotheses ( $\alpha=0.05$ ;  $n=420$ )**

auxiliary hypothesis		relationship between	chi-squared test	df	p	V-Cramer
H.1	1.1	PA-B/AB	19,583	15	,189	,124
	1.2	PA-F/AB	21,457	15	,123	,112
H.2	2.1	PA-B/SB	50,702	15	<,001	,256
	2.2	PA-F/SB	18,87	15	,220	,023
H.3	3.1	PA-B/OG	8,345	4	,080	,111
	3.2	PA-F/OG	9,276	4	,055	,121
H.4	4.1	PA-B/IP	63,216	25	<,001	,173
	4.2	PA-F/IP	24,363	25	,498	,012
H.5	5.1	PA-B/EE	45,026	20	,0012	,238
	5.2	PA-F/EE	46,726	20	,001	,216
H.6	6.1	PA-B/B-RC	87,750	25	<,001	,204
	6.2	PA-F/B-RC	16,837	25	,888	,023
H.7	7.1	PA-B/F-RC	46,398	25	,006	,259
	7.2	PA-F/F-RC	19,365	25	,0779	,121

Source: own elaboration

The analysis of the detailed hypotheses allowed to single out relationships between the variables of family businesses in Poland. The first of the detailed hypotheses assumed a relationship between the forms of profit distribution and the age of a business. No relationship with the age of a business was recorded either in the case of allocating profit to business development or securing family needs (H.1). It may mean that, regardless of the length of duration of a business, the directions of revenue

allocation are similar. Common observations of family businesses and their decision-making processes may indicate another type of behaviour, e.g. “consuming” profit in the first years of business operation. Statistical results unequivocally exclude the influence of this independent variable on the directions of financial means allocation.

The second hypothesis underlined the relationship between the analyzed variable and the size of a business. The obtained results of statistical testing indicate the lack of relationship between profit allocation to family needs and the size of a business which may signify a balanced distribution of such support irrespective of the size of a business (H.2.2). However, in the case of activities connected with profit allocation to business development, there is a link with the size of a business (H.2.1). It means that businesses along with their development invest profit earned (or part of it) into progressive measures.

The third hypothesis tested the relationship of gender with the selected directions of profit allocation. The analysis made did not show connection between gender and the selected direction of financial means distribution (H.3). The obtained result disclaims the stereotypes of female managers taking decisions in a more emotional way and directing profit to be consumed in the family.

Another testing area comprised relationships between the analyzed dependent variables and investment planning. A relationship between allocating profit to business activity and planned investments was confirmed (H.4.1). At the same time, the hypothesis regarding interdependency between using profit to satisfy family needs and implementing investment plans in the business sphere was rejected (H.4.2). Such results are in keeping with the logic of management which states that profit (or its specific part) should be spent on business developmental activities (profit reinvestment). It testifies to family enterprise owners’ and managers’ business maturity.

An appropriate preparation of future successors is an essential problem of family business responsibility. The fifth detailed hypothesis assumed a relationship between profit allocation directions and children’s entrepreneurial engagement in the enterprise’s business activity. Testing the hypothesis revealed that both in the first case (allocation in the business) and the second case (allocation in the family) there is a connection with children’s entrepreneurial engagement in business matters (H.5). The presented relationship between the researched variables may have different origins. First, it may result from adopted family models and values which oblige children to help their parents. Second, according to the exchange theory, children, observing the business development and growth in family living standards, notice the benefits of running the business and commit themselves more willingly to work in it. Third, according to the exchange theory, young people see their commitment to work for the good of the business as an opportunity to obtain more quickly benefits such as: power, respect (of both family members and people from outside) and social acceptance.

While conducting the research, attention was also paid to the emergence of conflicts in family businesses. Two of the hypotheses made (H.6 and H.7) concerned the analysis of the relationship between profit allocation directions and conflicts which were subdivided into business- and family-related. The existence of relationships between allocating profits to business company development and the emergence of business- and family-related conflicts was confirmed. Using profit to meet family needs does not give rise to conflicts. Such an outcome may be explained by the lack of co-deciding by other family members about detailed plans connected with financing the business area and family.

**Table 3. Results of testing the main hypothesis ( $\alpha=0.05$ ;  $n=420$ )**

The main hypothesis	relationship between PA-B/PA-F	chi-squared test	df	p	V-Cramer
		215,7982	25	<,001	,34

Source: own elaboration

The main hypothesis concerning activities connected with the conscious allocation of profits in both business and family spheres was confirmed. In accordance with the results contained in table 3, it can be stated that family entrepreneurs consciously divide profit into business development and satisfaction of needs signaled by the family.

The results of the multiple-path analysis justify the conviction that: first, owners of Polish family businesses show great awareness and maturity in harmonizing activities undertaken for the sake of the development of both spheres of a family business, second: the postulate of shaping *business responsibility* as regards activities related to the direction of profit allocation should be acknowledged as fulfilled.

## CONCLUSIONS

In search of theoretical bases for developing the concept of *family business responsibility*, the behavioural perception of social exchange was adopted. It allows to analyze the activity of family businesses as a system created by at least two players (business and family), whose present and future welfare is contingent on developing and satisfying mutual considerations.

In the course of the preliminary research, a few variables were singled out which may influence *family business responsibility*. The present paper features and thoroughly analyzes one of the variables singled out by experts, namely *the direction of profit allocation*. The main hypothesis, verified during the interpretation of statistical data, points to the ability of Polish owners of family businesses to effect a harmonious division of profits between the development of a business and needs of the family. Moreover, a few dependencies were proven to be linked to the analyzed variable:

1. The bigger the business, the more often profit is earmarked for business development;

2. Innovative (or aspiring to be innovative) businesses earmark profit for business development more often;
3. Raising children in the entrepreneurial spirit and engaging them in making business decisions is tied with a harmonious profit allocation;
4. Family-related conflicts are connected with a higher frequency of allocating profits in the sphere of business development.

The result of the development of a complete business model family responsibility will be to indicate the actions that should be taken by the family company seeking to maintain longevity. Work on the concept of *family business responsibility* will be continued and its consecutive variables will be analyzed and published in research papers.

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## THE PHENOME OF THE BIG DATA – WHERE IS THE RESPONSIBILITY OF OSP ?

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### ABSTRACT

By clicks, likes, tweets, photos, blog posts, online transactions, we (people and businesses) allow to create Big Data. Our digital traces tell the story about our professions, preferences, choices, transactions, traveling, habits etc. They permit to get information about who we are and what we do as individuals and organisations. This process is associated with a threat but also an opportunity for the social and economic development. The key question is how to ensure that the data we create continue to improve our lives, innovation and sustainable development. A majority of Big Data is no longer housed in statistical agencies, but housed by businesses including Online Services Providers (OSP). We state that regulators should consider this data as a public good and build the platforms for public and private partnerships to ensure advantage of digital technology, improved connectivity and data revolution.

**Keywords:** *Big Data, digital trucks, Online Service Providers.*

### INTRODUCTION: A NEW BRIGHT WORLD OF BIG DATA

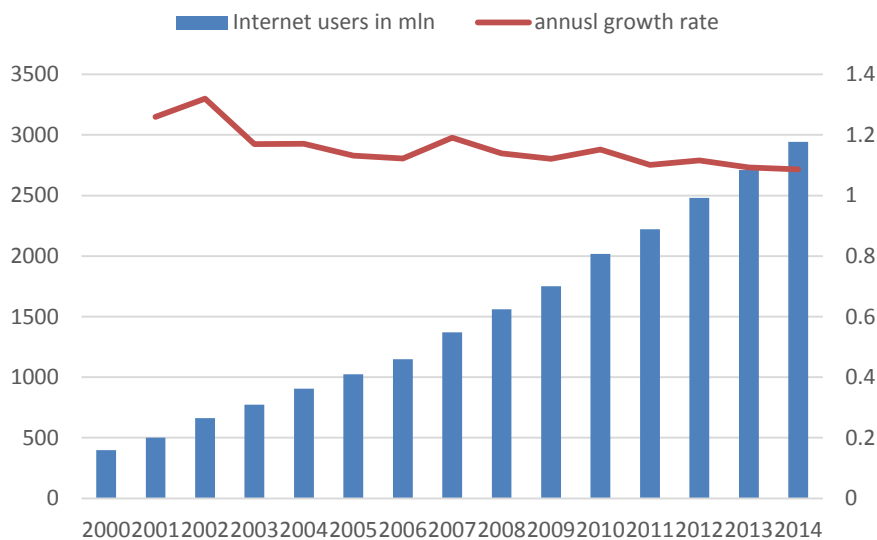
Big Data is a buzzword. And like most of buzzwords – globalization, synergy, and innovation – it remains a loosely defined notion. One of the most commonly recognized definition was offered by Gartner: Big Data is “high-volume, high-velocity and/or high-variety information assets that demand cost-effective, innovative forms of information processing that enable enhanced insight, decision making, and process automation”<sup>1</sup>. Big Data may differ as to their structure (structured, unstructured, semi structured) or their source (internal to the organization or external). It may be collected by public institutions, but the bulk of it consists of the enterprise Big Data, collected and processed by private Online Service Providers (OSP).

The Internet offers multiple platforms for people to consume, disseminate and produce their own content – or leave their digital traces. This results in exponential rise of data and information. The oft-cited IBM source claims that 90% of all existing data has been generated in just last two years, daily there appears 2.5 quintillion of bytes, and up to 2020 there will be 43 trillion of gigabytes (IBM 2015).

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<sup>1</sup> <http://www.gartner.com/it-glossary/big-data/>

There are many different types of Big Data sources collected by OSP: social media data, personal data from tracking devices, sensor data, transactional. The total sum of data store by biggest OSPs (Google, Amazon, Microsoft and Facebook) is estimated to equal at least 1,200 petabytes<sup>1</sup>. Google receives over 4 million search queries per minute. Facebook users shared 2,460,000 pieces of content. This increase of Big Data is mainly related to the growth of Internet users. In one decade, the global internet population grew from 0.5 billion to 3 billion people. It means that now 3 billion users produce data as part of their everyday participation in the digital world.



**Fig. 1.1 Internet users and annual growth rate**

Source: ITU

In this article we bandwagon in the trend of analysing the Big Data revolution. We try to defend our right to do so by introducing the elements of economic and sociological reflection concerning the private and public goods in order to analyse the specificity of the enterprise Big Data. We start by reviewing the basic assumptions of economics of information, and then we continue to discuss their social and economic consequences, in the light of the emergence of Big Data. We underline that there is an unlimited potential in Big Data to be realized but first there are some challenges that have to be resolved. Not only issues related to individual privacy, data protection and data integrity should be discussed and regulated. The Big Data should be considered as a public good. On this paradigm the cooperation between businesses, academic institutions, and statistical organizations should be built. In this process the crucial role should be played by those who generate the biggest amount of data – the Online Service Providers.

<sup>1</sup> <http://www.sciencefocus.com/qa/how-many-terabytes-data-are-internet>

## INFORMATION AS A PUBLIC GOOD

The point of departure, then, is that recently we witness the data revolution: never before humanity had so much data on their hands (Cukier, Schoenberger 2013). But, to state the obvious, having data is not coterminous with having information, which, in turn, does not automatically lead to possessing more knowledge. Information (if it is to be reliable, needs to be extracted from data with use of rigorous, scientifically grounded methods) is always contextual and involves the process of ordering, structuring and presenting of data. While knowledge is generated in the process of culturally defined understanding of information (Elsner, Heinrich, Schwardt 2014). As many social scientist proposed – e.g. American economist and Nobel Prize winner George Stigler and French thinker Michel Foucault – knowledge is power. And to take this argument further, power is equivalent with the potential to change the behaviour of other people, the functioning of the institutions and consequently the shape of the society.

Owing to contributions from the aforementioned Stigler, George Akerlof and Joseph Stiglitz the theory of economy gained valuable insights into the economics of information. The later assumes that information is a kind of a product, although by no means a typical one. It is relatively easy to generate and disseminate, and when accumulated it has more value than the sum of the individual values. What's more important, there are immense economies of scale. Information is not consumed by being used or transmitted to others: many persons may possess and use the same information, even at the same time, without diminishing its value to others.

It was Joseph Stiglitz who noticed that the economic properties of information have those characteristic of public goods. Besides, it should be emphasized that in his view for all practical reasons, information can be equated with knowledge (Stiglitz 2008: 1693). He pointed out two main critical properties that allow such classification, precisely: nonrivalrous nature and nonexcludability (nonexclusion?). The former implies that there is zero marginal cost for an additional consumer to enjoy the benefits of the knowledge and the latter implies that the knowledge and all its benefits cannot be provided privately. While these two characteristics may seem very easy and clear to be identified, the precise understanding of these properties give the origin to the strong economic implications.

Namely, Stiglitz (1999) emphasised that when we consider nonrivalrous nature of the knowledge we should notice that zero marginal costs imply that the knowledge with the zero price is the knowledge that can be produced at the zero costs. And besides, we should not forget about the costs stemmed from transmission of the knowledge: private providers of the knowledge can charge the transmission of the information to reflect the marginal cost of transmission though without alerting the nonrivalrous nature of the good itself. In other words, while there is a cost related to transmission, the

good itself remains free of charge. Therefore, the existence of private providers of the information does not take the information out of the public good classification.

When it comes to the nonexcludability (nonexclusion), this implies that no one can be excluded from the consumption of knowledge. However, Stiglitz discusses that there are many cases when some forms of the knowledge (for instance secrets of the firms to produce particular products, etc.) are excludable. In this direction, we may see patents as the tools for disclosing the information from the information owners. More precisely, by giving rights to inventors to enjoy the fruits of their innovative activity over a limited period of time, we get the information about the details of their innovations. This process additionally generates positive externalities since availability of the new knowledge is in fact the source of further innovations. So patents basically can determine the pace of innovations. However, since nonexcludability is not fully satisfied by the phenomena of the creation and transmission of the knowledge, the latter is rather considered as an impure public good.

The proposition of Stiglitz (1963, 1999) counters the classical economic approach by Paul Samuelson that emphasizes that public goods are, by definition, generated by public sector. As Holcombe puts it, "An economist argues that a good has the characteristics of either jointness in consumption or nonexcludability, and then, because that makes the good a public good, implies that the good should be produced in the public sector" (Holcombe 1997: 1). Stiglitz's argument goes hand in hand with the approach of the researchers working in the area of development and underdevelopment who emphasize that "public goods are socially defined and constructed: the outcome of complex political processes which evolve around the definition of public need" (Wuyts 1992). Stiglitz (1999) furthermore argues that besides being the public good, information could be moreover classified as a global public good. The idea is that the access to information and knowledge have to be guaranteed and safeguarded so that the asymmetry of information does not diminish the equal playing ground for individuals and firms, especially when that knowledge is crucial to internal and international development. In other words, a public good is not defined as a good that is characterised by nonexcludability and nonrivalrous nature, but as such that *should* be nonexcludable and nonrivalrous, and this includes the access to information and knowledge.

Let us assume, then, that information is a global public good. Does this classification unequivocally relate to data? Does the data, particularly Big Data, represents a public good?

## WHO'S BIG DATA?

The Big Data are intermittently generated by various organizations, public and private, and by individuals who are – mostly unwittingly and sometimes unwillingly – leaving their virtual tracks while surfing the net, interacting via social media, or using their mobile. What's even more important,

this process of data production is not passive: people are being actively tracked by plethora of entrepreneurship.

The *Atlantic* journalist Alexis Madrigal found out with the help of Mozilla's software Collusion, that in 36 hours of "standard web surfing" his data was tracked and collected by 105 companies, mostly by "smaller data and advertising businesses that form a shadow web of companies that want to help show you advertising that you're more likely to click on and products that you're more likely to purchase"<sup>1</sup>.

The digital traces left by digital subjects in virtual activity are collected by Online Service Providers (OSP). They play the role of intermediaries for consumers and enterprises by providing them online access to the digital goods and services, but at the same time they use search engines to generate and maintain extensive databases of Internet addresses and content (web pages, images or other types of digital files) in an easily searchable format. Unsurprisingly, they use the collected data for their own benefit, e.g. in order to improve their services and monetize them by targeted advertising. The revenue from advertising makes it possible to provide valuable services that are offered to users at low (subsidized) prices or for "free". Yet there are no free lunches. The cost that the customer has to pay for those services often takes the shape of the acceptance of the fact that his or her data will be gathered and used for (mainly) marketing purposes. This way the Internet intermediaries are located at the crucial nodes of power: they have an access to an unimaginably large pool of data from which they can extract information, building themselves an informed and intimate knowledge about the preferences of their customers, trends in social, political and economic areas of life. And, only naturally, they use their privileged epistemological position to strengthen their hold on the market.

These new possibilities of data-nourished market adjustment were readily taken up by other private entrepreneurs. The collection and use of customer data is practiced not only by online firms, but also by traditional offline businesses, by both new players and established ones, by firms of all sizes, by firms offering a wide array of services to users. More and more firms have been taking their day-to-day operations first to computers, and then online. They collect large-scale and even real-time data on prices, employment, spending, costs, sales contracts, physical shipment and transport (McKinsey 2011). They also keep digital records of collaborative work efforts, personnel evaluations, and productivity measure. Most of these data sets are easily searchable and easy to merge. What's even more important, nowadays private entrepreneurs virtually effortlessly and without burdensome costs are able to harvest data lined to advertising, social media activity, offline spending, or credit history. As a result, the sellers are able to tailor their offer to the individual customer needs by using systems

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<sup>1</sup><http://www.theatlantic.com/technology/archive/2012/02/im-being-followed-how-google-151-and-104-other-companies-151-are-tracking-me-on-the-web/253758/>

that aggregate user feedbacks and by offering advertisements and product recommendation based on past browsing behaviour, past purchases or analysis of data on individual user preferences as evoked via social media (Hennig-Turau et al. 2010). Generally, circa two thirds of the Big Data inflow comes from the internal sources of the companies, the rest is bought from other OSP, especially those who own social media (TCS 2013: 20).

Firms using Big Data-extracted information on the consumer preferences enjoy huge competitive edge: in 2011 Eric Brynjolfsson and his colleagues analysed the performance of 179 of large publicly traded firms and found that firms that adopted decision making based on data and business analytics ("data driven decision making") can boost output and productivity by larger than 5-6%. They also performed better in asset utilization, return on equity and market value (Brynjolfsson, Hitt and Kim 2011). Another estimation predicted 60% potential increase in retailers' operating margins (McKinsey 2011); nowadays those firms that do not squeeze such information out of digital traces are often losing their traditional markets. The asymmetry of information acts for their detriment.

Getting back to the point: the phenomenon of ownership of the enterprise Big Data is complicated. Basically, enterprise Big Data is mostly private data produced by the individuals acting – for most of the time – privately, i.e. not in their worktime and for private, often intimate purposes. The individuals have got no effective control over their "online production". Admittedly, in 2012 (effectively in 2013) the European Union (EU) introduced the obligation to inform the users about online tracking. But still the only viable, though increasingly impractical, option to limit the scale of online tracking is to opt out from using the technology. The effective possessors of the data are the Online Service Providers who gather the data. We could possibly extend this argumentation to show that this relationship can be treated as a kind of Marxian clinch between the digital analogue of the exploited and the exploiters who capture the added value for their own benefit (Mosco 2015). Admittedly, the digital "proletariat" toils more than willingly, but nevertheless they have no tools to evaluate whether the perks they are granted, such as the use of free software, is worth it. One of the sides of the bargain acts in the context of maximum information asymmetry. The OSP own the data that make it possible to build information and knowledge about society: they know about us, and can look at us, analyse us, sell the data and information about us. We don't know what exactly they know, and what's more, in many aspects they know more about us than we know about ourselves. This view seems to be supported by Stiglitz, who emphasises that nowadays the ability to produce knowledge is in fact the digital analogue of means of production:

*Knowledge and information is being produced today like cars and steel were produced a hundred years ago. Those, like Bill Gates, who know how to produce knowledge and information better than others reap the rewards,*

*just as those who knew how to produce cars and steel a hundred years ago became the magnates of that era (Stiglitz<sup>1</sup>).*

Effectively, then, enterprise Big Data, even though in main part produced by plethora of individuals, is treated as private good by the actors who are located in privileged positions to collect it.

## WHY SHOULD WE TREAT BIG DATA AS PUBLIC GOOD?

Maybe there is no need to make so much ado about this trafficking in human digital data? Maybe if there are legal regulations in place that control the pathologies of Big Data political economy, such as interlocking of digital capitalism and the surveillance state (Mosco 2015), and the data are kept anonymous and are not used *against* individuals, there is no harm that enterprise Big Data are kept and used solely for business purposes?

In the first part of the article, following Stiglitz, we argued, that information and knowledge are kind of public goods. Logically, data are the necessary constituents of information. Is there any difference between the data that could be used by society at large before and after the onset of Big Data? Why is the access to Big Data that important for the society that we argue that it should be treated as a public good for public good? In the past, data was gathered, structured, interpreted and - often grudgingly or never - presented by specialized institutions, usually at the payroll of nation-state (such as National Statistics Offices) or of the market actors (e.g. R&B departments of corporations or market research agencies). The process of data collection was almost invariably tedious, time-consuming and costly. This changed with the triumphant ascent of digital technologies that culminated in the so-called Big Data Revolution. Data available from traditional sources such as censuses and surveys are not entirely sufficient for modern research.

The consequences of Big Data Revolution were most convincingly discussed by Schoenberger and Cukier in their seminal book (2013). They emphasize that the emergence of Big Datasets opens new methodological opportunities for social sciences. The basic assumption is that we witness the increasing “datafication”, that is the growing possibility to capture “many aspects of the world that have never been quantified before”. This in turn leads to three immensely important changes in the attitude to data. First of all, in many areas of social life sampling, the pillar of modern statistics, is no longer that crucial. In the past social scientists had no means of analysing the bulk of the society. They had to rely on the assumption that a random sample of the society will tell them something about the whole. In other words their probing techniques were similar to those applied by geologists who insert drills into the ground, extract core samples and then use it to describe a certain geological area. But the

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<sup>1</sup> Stiglitz, Joseph. 1999. Public policy for a knowledge economy. *Remarks at the Department for Trade and Industry and Center for Economic Policy Research* 27 <http://akgul.bilkent.edu.tr/BT-BE/knowledge-economy.pdf>

geological areas tend to be more structurally coherent than human societies, so the social scientists, particularly sociologists, had always taken into account the possibility of error.

Another case is pointing out the links the ontological and epistemological arguments. Sociologists often complain that their object of research is immensely complicated, fragmented and, what's most important, changeable. The effects of their analyses most often described the society that was no longer there. For example, it took the National Statistics Office more than three years to publish the results of the Polish census of 2011. The widely approved Gartner definition of Big Data emphasizes velocity as its main feature – the data are available in almost real-time. Sociologists do not have to paint a perfected sociological portrait of the society, which takes (too) much time, they can snapchat its changing faces. In other words, they can gain new epistemological vistas of the ontologically incoherent subject of analysis, if only they will be able to make peace with two other aspects of Big Data revolution Schoenberger and Cukier emphasize. First of all, social scientists have to accept the fact that Big Data are messy: “a bit inaccuracy can be tolerated, because the benefits of using vastly more data of variable quality outweigh the costs of using smaller amounts of very exact data”. Secondly, and even more importantly, they have to renounce causality and accept correlations (and with it the risk that lot of it will prove to be spurious). But this, taking their argument further, may become the realization of the big dream of social sciences from their onset: the power of predicting the future.

*Big data is poised to reshape the way we live, work, and think. A worldview built on the importance of causation is being challenged by a preponderance of correlations. The possession of knowledge, which once meant an understanding of the past, is coming to mean an ability to predict the future. The challenges posed by big data will not be easy to resolve.*

Big Data can change economic and social research relied on methods such as surveys, experiments, and ethnographies. For example, real time data can be used to estimate inflation. In the MIT Billion Prices Projects called PriceStats prices are collected daily from hundreds of online retailers. Thereby changes in inflation trends can be observed sooner in PriceStats than in the monthly Consumer Price Index (CPI). Social media messages can be the source of measuring the job losses or households' sentiments on their financial situation and on the economic climate (Daas and Puts (2014)). The Big Data can be the important source for research development especially in countries where accessibility to the Open Data is limited to the researchers.

The ancestors of sociology, notably August Comte, wanted social sciences to “know to predict, to predict to control”. The access to Big Data may make this dream come true: it enables building multifactor knowledge about society and its problems, facilitates extrapolating trends, and makes it



possible to react more precisely and quickly to those identified problems, bringing an entirely new possibilities to public policies. Just like the firms can tailor their market offer to the needs of customers extrapolated from their virtual tracks, the government could tailor its undertakings to the needs of specific social groups, and react in time to prevent crises. Chris Yiu, an expert of Policy Exchange claims (2012) that using Big Data in administration facilitates sharing (e.g. streamline transactions between different agencies and departments); learning (e.g. generating agile insights about the internal functioning of the organization in question); service personalisation (enabled by “granularity” in big data); solving (by way of examination of previously hidden patterns and correlation and enhanced prediction); and innovating for growth (by strengthening efficiency and cost-effectiveness). The traditional policy cycle of “planning – implementation – evaluation” may be, in result, replaced by “agile public policy” - (Parcell & Holden 2013, Room 2011).

Big Data have been greeted as the “new oil” of the 21<sup>st</sup> century (Greenwood et al. 2014), the necessary component of future socioeconomic development. In 2011 McKinsey Global Institute experts in a report “Big data: The next frontier for innovation, competition and productivity” outlined five ways in which Big Data may create additional value. First, by creating transparency: “simply making big data more easily accessible to relevant stakeholders in a timely manner”; secondly, by “enabling experimentation to discover needs, expose variability, and improve performance” of organizations; thirdly, by segmenting populations to customize actions; then, by replacing or supporting human decision making with automated algorithms; fourthly, by innovating new business models, products, and services. Interestingly, the report focused not only on the productivity benefits for enterprises, but also for public sector. The research proved that “big data levers, such as increasing transparency and applying advanced analytics, offer the public sector a powerful arsenal of strategies and techniques for boosting productivity and achieving higher levels of efficiency and effectiveness” (McKinsey, 2011: 54).

Detailed data on human beings can be used by policy – makers to reduce crime, improve health delivery and manage cities (Keller et al. 2012). Services can be effectively targeted to the citizens, health interventions can be better designed, and taxpayers may pay less for government services (Lohr 2012). Real time data can be used to monitor traffic or to identify infrastructural problems what permits to react efficiently and quickly.

In 2011, McKinsey estimated that use of Big Data may potentially contribute 250 billion € annually to Europe’s public sector administration.

## TOWARDS NEW DEAL BETWEEN PRIVATE AND PUBLIC INTEREST

So far we have tried to highlight the importance of accessing the Big Data. But here the main difficulty comes down to convincing the factual owners of the Big Data that introduction of some routine mechanisms to share their commercially valuable asset should be their (corporate) social responsibility.

This new kind of negotiation to make the consensus around the private and public interests in Big Data was recently highlighted by Big Data UN Global Working Group. During conference on „Big Data for Official Statistics“, in October 2015 in Abu Dhabi, the Group presented „Draft Principles for Access to Big Data Sources“ (UNSTAT 2015). The proposal tries to reconcile „the high and urgent need for access to Big Data sources for the production of official statistics“ and „legitimate interest of businesses“ who may become financially and organizationally burdened by requesting access to Big Data, by way of introducing eight principles:

- 1) **Social responsibility:** The national and international systems of official statistics need data in order to „provide relevant, high-quality information to society in an impartial way“. To this end, they need free of charge inputs from individuals, including businesses which should treat this obligation as a part of their social responsibility.
- 2) **Fundamental principles of official statistics:** the statistical agencies will obviously guarantee the confidential use of the data.
- 3) **Level playing field:** No particular entrepreneurship should be particularly burdened by the obligation to provide data: “the fairness of the distribution of the burden across businesses has to be considered, in order to guarantee a level playing field”.
- 4) **Acknowledgment of business interest:** Data have market value, so there “must be a fair balance between public and business interest when data is requested”.
- 5) **No more than needed:** The data must be adequate and relevant in relation to the purposes for which it is requested from the business.
- 6) **Benefit proportionality:** The cost and effort of providing data, including possible pre-processing, must be reasonable compared to the expected public benefit of the official statistics envisaged.
- 7) **Non-discrimination:** Businesses should treat requests from national statistical systems in a non-discriminatory way.
- 8) **Transparency:** both businesses and statistical authorities should ensure full transparency about the provision of data<sup>1</sup>.

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<sup>1</sup>

<http://unstats.un.org/unsd/trade/events/2015/abudhabi/presentations/day2/04/1%20Access%20and%20Partnerships.pdf>

To sum it up, for the practical reasons (operation costs, transaction costs) the access to Big Data cannot be unrestrictedly open. The two principal intermediaries between entrepreneurship Big Data and the public should be public institutions and, particularly, universities. The academic society should see they role in processing and explaining the data and its potential uses to the decision makers and society in general. Particularly social scientists should act as translators of abstract digits to so-called “common people”. In 2010 Eric Schmidt and Jared Cohen suggested that one of the major sources of the present social, economic and political change is the diminishing importance of intermediaries in the circulation of information. They argue that we are witnessing the emergence of new types of non-hierarchical relations of power in the framework of “virtual communities” of people. Yet the revolutionary potential that Schmidt and Jarvis saw in the sheer existence of the data and information will not be fulfilled without input of intermediaries which will transform the data into the easily understandable format. To reap the fruits of the recent worldwide digitization, there is the need of more systematic analysis of ever-changing and tantalizingly growing bytes. “The numbers have no way of speaking for themselves. We speak for them. We imbue them with meaning. Like Ceasar, we may construe them in self-serving ways that are detached from their objective reality” (Silver 2012). And here, we consider universities to play the crucial role. As never before, there is a room for the academia in preserving the right to knowledge and information by providing the tools and means for analysis of both public and enterprise Big Data.

Additionally, the universities have another traditional role to play. As we have already stated, the governments vie (??) for more precise knowledge of their citizens. They gather it with their own hands and by looking for ways to access the enterprise Big Data. But, as the ACTA protesters emphasised, the too well informed Leviathan may easily transform into virtually omnipotent – because omniscient - Big Brother. Tailored solving of social problems may grow into social engineering that would not necessarily be mild. The academia should guard and guarantee the free flow and use of knowledge produced with the use of Big Data.

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## **BOOK OF CONFERENCE ABSTRACTS**

# A MULTICULTURAL STUDY ON THE IMPACT OF CULTURE ON THE QUALITY OF THE RELATIONSHIP BETWEEN EXPORTERS AND LOCAL DISTRIBUTORS

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## ABSTRACT

This research is aimed to understand the role of culture in the quality of the relationship between Portuguese exporting companies and their distributors in Angola.

This study is particularly important because it is based on an analysis of exporting distributor pairs (matched pairs) i.e. Portuguese export companies and their distributors in Angola. This study aims to understand how culture impacts the quality of relationship on trade relations established between companies in the internationalization of business context. Also note that in international contexts, it hasn't been much studied the impact of the similarities / cultural differences about the relationship structures.

In terms of methodology, we opt for a qualitative analysis: five case studies of Portuguese exporting companies and five case studies of Angolan distributors were examined. Interviews with Directors / CEO of Portuguese exporting companies and boards responsible for export activities were carried out and the corresponding Angolan distributors in order to answer the research questions. The selection of Portuguese companies was based on a list of the fifty largest exporters to Angola, provided by the Agency for Investment and Foreign Trade of Portugal, EPE (AICEP) in August 2011. In general, the results show that culture has impact on the quality of the relationship of business relations between the Portuguese exporting companies and their Angolan distributors.

**Keywords:** *Angola, Portugal, exporter, distributor, international marketing, culture, cross-cultural marketing.*

## THE SCIENTIFIC, ECONOMIC, SOCIAL AND ETHICAL VALUE OF GEOLOGICAL HERITAGE: EXAMPLES FROM SOUTH ITALY INLAND AREAS

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### ABSTRACT

#### PURPOSE

The present paper re-evaluates and highlights the scientific and touristic value of some geological sites of inland areas in South Italy. The protection and the valorization of natural heritage is an opportunity for economic development of local communities. The touristic promotion of an area, preserving and improving its naturalness levels but being also an opportunity for development, can only be based on the scientific knowledge of the places and the sustainable management of the natural resources. While it is more immediate to understand the importance of protecting a forest or an animal species, it is still not widespread the awareness of the geological heritage protection, often constituted by non-renewable resources as a waterfall, a cave, a fossil level.

#### METHODS

Italian natural heritage is well known, however inland areas are often poorly reached from the main touristic flows. Sites of geological interest as Baselice, Pietraroja, Cerreto, Telese, Vitulano, located in inland areas of South Italy (Fig. 1), if properly promoted, can be an example of eco-sustainable tourism.

- *Baselice*: outcrops of fossil circolittoral macrofauna embedded in Miocene sediments rich in echinids (e.g. clypeaster), molluscs (pecten, ostreids, etc.) corals and red algae (Ciarcia *et al.*, 2012; Università degli Studi di Napoli, 2016);
- *Pietraroja*: due to its international relevance, it could be proposed for classification as the location of an UNESCO Global Geopark; the area is rich in geoheritage of great scientific value (Società Paleontologica Italiana, 2010-2016) for the occurrence of a Cretaceous theropod dinosaur, named *Scipionyx Samniticus* (friendly *Ciro*), characterized by an extraordinary soft-tissue preservation and of thin and very delicate abdominal bones (Dal Sasso and Signore, 1998), that is of interest for both education and tourism (Ruggiero *et al.*, 2003) ;
- *Cerreto Sannita*: in the surroundings there are the grooves of the Titerno River carved in the Lower Cretaceous limestone to form the “Marmitte dei Giganti”, deep depressions shaped

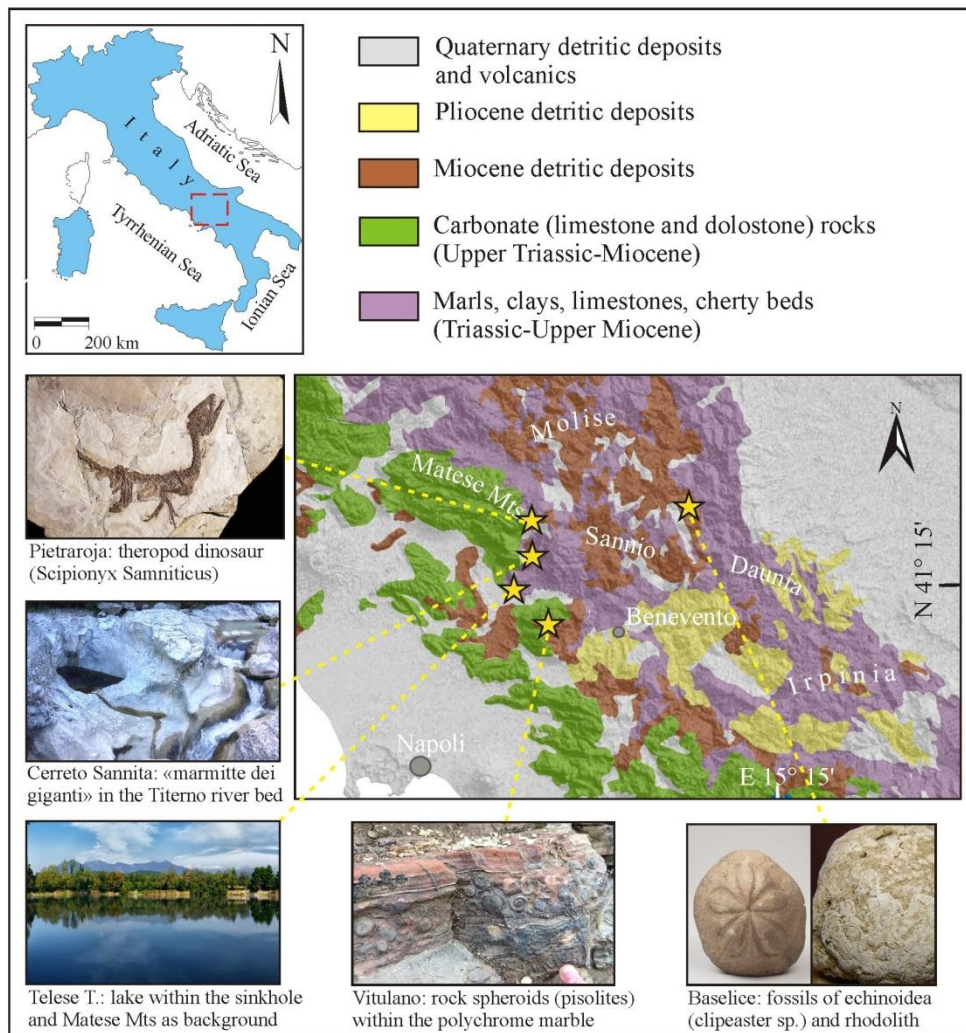


Fig. 1 – Some sites of geological interest in South Italy

like a well in the rocks, which arise from river erosion (Ruggiero *et al.*, 2003; Ciarcia and Amore, 2016);

- *Telese*: positioned on an Upper Pleistocene travertine (calcareous rock of chemical origin) plate, it presents an intense hydrothermal activity with sulphur springs and a lake circularly shaped, situated within an old sinkhole (Ruggiero *et al.*, 2003; Vitale and Ciarcia, 2013);
- *Vitulano*: mines of Cretaceous polychrome marble, an ornamental stone consisting of reworked bauxites, calcareous breccias and reddish limestones, deposited in underground cavities (Vitale and Ciarcia, 2013; Ciarcia and Amore, 2016);

The geoconservation methodology used includes (1) inventory and characterization of the geosites, (2) relevance and ranking of the geosites, using numerical indices, (3) implementation of the conservation strategy, (4) tourism promotion, and (5) monitoring, over time, the selected geosites.



## FINDINGS

The integration of scientific education with business knowledge and managerial skills allows a correct protection and development of the area. This requires a widespread dissemination of the geological resources but also an education to the economic value of natural heritage and to the use of business tools. Finally, the Nature is able to inspire in us emotions: the integration of "rational knowledge" and "emotional knowledge" can determine the acquisition of a new feeling where *"citizens could make decisions on their own behalf to benefit themselves, their community, their country, and the environment that sustains them"* (Wangari Maathai, Nobel prize for peace in 2004)".

Keywords: Geological heritage, Economic development, Eco-sustainable tourism, Business and managerial skills.

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## THE RELATIONSHIP BETWEEN SOCIAL MEDIA MARKETING AND CO-CREATION IN THE UK INDUSTRY RETAIL

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### ABSTRACT

The purpose of this study has one major segment; to show the relationship between social media marketing and co-creation. This will be shown, through an initial conceptual framework, which shows the proposed antecedents and the consequences of co-creation in a company.

The role of Social Media has become crucial, because there is a change about the role of Internet and the developments that have been created around the Web 2.0, in the marketing. Social Media is the term that described platforms that bring people together for the exchange of information, for example: Facebook, Twitter, Instagram, etc. Social media is defined as an interactive platform that allows social actors to create and share in multi-way and instant communications (Kietzmann et al. 2011; Peters et al. 2013). It has become a communication vehicle and a very powerful marketing medium for the companies with many benefits. According to Stelzner (2014), 97% of the companies are using some form of social media in order to market their business.

Social Media can be considered a catalyst for changing market structures and relations in the market. For the reason that, there is no longer one-way of communication from a business to the consumer. Social media can offer a new powerful way for customers to not only to communicate with the companies and brands, but to communicate with other consumers too. Stelzner (2014), stated that social media can be described as a fast and effective mean for the consumers in order to communicate with organisations.

Marketing and advertising are changing more than ever in the last few years, and the customers are pulling the strings. Consumers are more active, informed and empowered. The internet has given them power to research, compare and review brands, authorising good and bad experiences to be transmitted to the world. For the companies, this can be challenging, who in the past had always the control over their brand messages and image. The firm-centric view of the world, has refined over the last 75 years. Customers are interacting with the company through social media, and are co-creating value, where there is a more customer-centric value creation (Prahalad & Ramaswamy 2004a; Roberts et al. 2005; Vargo & Lusch 2008).

According to Prahalad and Ramaswamy (2004), co-creation is a process of interactions between consumers and the firm in the exchange of information and dialog. Customer co-creation is an active, creative and social process, based on a collaboration between retailers and consumers (Roser et al.,

2009; Hippel, 2005; O'Hern/Rindfleisch, 2009; Piller/Ihl, 2010). Customer engagement has become a critical strategic matter and a key success feature to develop a competitive benefit for businesses in a very competitive world (Sedley, 2008; Brodie et, 2011).

Co-creation is a new paradigm that has captured the imagination of marketing and management professionals and scholars (Zwick, Bonsu and Darmody, 2008). By the implementation of the idea of co-creation, companies can gain competitive advantage. In generally, co-creation with consumers is resonant. The number of firms that are implementing co-creation is increasing more and more. Behemoth companies are engaging consumers through co-creation, for example: CocaCola, Starbucks, Burberry.

In the long run, social media marketing became an important data source for businesses. The integration of social media can increase the effectiveness and the efficiency of co-creation, for the reason that it improves the insights about a product from their customers' opinions.

In order to investigate the relationship between social media marketing and co-creation and analyse if this relationship will lead to greater results for the company, primary and secondary research was adopted. Primary research involves the data which is original, meaning they are collected for the first time. Secondary research deals with the data that has been already gathered by someone else and has been through statistical analysis (Kothari, 2014).

It was decided that descriptive quantitative was suitable for this study, so that the results would have both width and depth for achieving better answers for the Research hypothesis of this study (Creswell, 2003). Therefore, after considering the requirements of this study, it was decided that online-questionnaires would be a suitable method for the collection of empirical data for this research. This method was adopted because it supports large number of samples and can generate trustworthy results. The online-questionnaire had multi-value option-questions and was created on Qualtrics which is an online-survey software-tool. The questionnaire data will be coded through Qualtrics and will be analysed through Word in which tables and Figures will be created.

The findings will show the relationship between social media marketing and co-creation. Also, the factors that a company must use in order to succeed a greater customer co-creation. Finally, the benefits and the consequences that a company can gain by using co-creation, will be shown.

## **IMPACT OF TOP MANAGEMENT TEAM COMPENSATION ON FIRM PERFORMANCE IN TURKEY: AN EMERGING ECONOMY EXPERIENCE**

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### **ABSTRACT**

Top management team (TMT) compensation is a critical area of interest in the current economic environment. The public media and politicians as well as the practitioners and researchers are captivated by the high and steadily increasing salaries top executives receive annually. Although the antecedents of top management team compensation, especially CEO compensation are analysed in detail in several academic disciplines and from many theoretical lenses, understanding the consequences of top management team compensation are still central to the concerns of practitioners and researchers. In this study we discuss top management team compensation in Turkey and explore the implications of executive teams' pay for firm performance. Examining a sample of 2067 firm-year observations of Turkish listed companies spanning the period 2009–2013, our regression analysis results indicate that the association between firm performance and top management team pay is conditional on the effectiveness of corporate governance system. We observe that the impact of executive management team compensation on firm performance differs regarding companies' ownership structure, size, control structure and board of directors' characteristics.

**Keywords:** *Top management team compensation, top management teams, emerging market*

## INSIDER VERSUS OUTSIDER SUCCESSORS: ANTECEDENTS OF CEO SUCCESSOR ORIGINS IN AN EMERGING MARKET

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### ABSTRACT

One of the most important decisions pertaining to the future and performance of a company is that of top management succession, especially the appointing of a new Chief Executive Officer (CEO). Much of the research into this subject has been conducted in the US, and has revealed both that CEO turnover rates are increasing and that CEO tenures are becoming shorter. The present study aims to expand this literature by examining the social context of an emerging market, Turkey, in which firms involved in family, business group, and international relations influence CEO successions and the characteristics of these successors. In this context, our study focused on 258 Istanbul Stock Exchange listed companies and examined all newly appointed CEO's and their antecedents between the years 2005 and 2011. The three hypothesized determinants of CEO succession and successor origins are: pre-succession performance, ownership structure, and incumbent CEO's characteristics. Logistic regression analysis was used to estimate the effects of these independent variables on CEO succession. In line with the hypothesis that CEO successions will be preceded by lower firm performance, we found that firms not experiencing leadership changes had performed better than firms that had, whereas those experiencing a CEO change did not differ in term of ownership structure, industry and company size. Through multinomial logistic regression analysis, we also found that the choice of an insider successor was affected by pre-succession performance and voluntary CEO departures. As hypothesized, we found that firms are more likely to replace an incumbent CEO with an insider when the firm has performed well financially and when the previous CEO has left the company voluntarily. However, the choice of an outsider is strongly and inversely related to the size and industry-type of the company, and is positively related to pre-succession performance and planned voluntary CEO departures. As proposed in our hypothesis, we also found that in family business groups the probability of outsider successors coming from group-affiliated companies was higher.

**Keywords:** *CEO Succession, CEO successors' origins, emerging market*

## EXPLAINING BUSINESS FAILURE: A CONTEXTUAL ANALYSIS

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### ABSTRACT

Failure is a very important part of the entrepreneurial process and much can be learned from understanding it. To date, researchers have used different definitions for business failure. The most cited definitions include terminologies such as business discontinuance (Bruno et al., 1992), bankruptcy and insolvency (Zacharakis et al., 1999; Shepherd, 2003), termination of an initiative that has fallen short of its goals (McGrath, 1999) deviation from expected and desired results (Cannon and Edmonson, 2001). In this paper, entrepreneurial failure defined as business discountinuance which indicates a broader conceptualization.

The causes of business failures are many and varied. These can be classified in both by individual/organizational (internal) and environmental (external) factors (Zacharakis, et al., 1999). Factors such as lack of financial resources (Liao et al, 2008), lack of management skills and competencies (Hall, 1992; Gaskill et al., 1993), inadequate economic circumstances (Thornhill and Amit, 2003; Arasti, 2011) have been often mentioned by previous studies. These, however, do not shed light on the distinctive reasons of venture failure. Specifically, little research has investigated the relationship between causes of business failure and cultural context. An exceptional study done by Arasti (2011) found similar causes of failure in Iranian context that appeared in the literature. In this study, the author examined which specific contextual factors have effect on business failure in Turkish context.

In the research, which was designed according to the qualitative method, face-to-face interviews were held with 13 entrepreneurs. Interviewing was preferred to seek indepth information and knowledge in order to reveal contextual factors. The participants were from different sectors who closed their businesses after running at least 3 years.

This study has, in line with existing literature, confirmed the effect of financial inabilities, poor management and some environmental factors such as political and economic pressure as the most important factors of failure. The first and foremost contextual factor came into play was "trust" issue which is in accordance with the findings that Turkey is one of the most extreme examples of a distrustful society. Another contextual reason for failure was lack of partnership culture which might be linked to trust issue. The paper makes a significant contribution to understanding business failure by examining the culture specific factors.

**Keywords:** *entrepreneurship, business failure, culture, trust*

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## **SIMULATION MODELLING TO IMPLEMENT LEAN MANAGEMENT IN HEALTH CARE SETTINGS**

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### **ABSTRACT**

#### **BACKGROUND**

In the last decade, healthcare system has been facing several challenges worldwide. First, governments' spending review needs to deal with rising healthcare costs because of economic crisis; on the other hand, the growing demand for high-quality care requires performance improvements in terms of both clinical efficacy and patient safety (OECD, 2015). Therefore, the imperative is to optimize the use of resources, improving health service efficiency. According to this, the World Health Organization's Report of 2010 shows that up to 40% of health available funds are wasted, highlighting the importance of an optimal and wise deployment of resources instead of cutting the delivery of care services. Due to these conflicting key issues, the development of new managerial approaches, models and tools is undoubtedly required, in order to identify new efficient ways to provide care, meeting customer expectations. Lean Management (LM) is a managerial approach which has been widely used in manufacturing for decades, despite its principles are relatively new in health care. However, it is already acknowledged that LM tools are effective to facilitate and support changes in the delivery of health care (Institute for Healthcare Improvement, 2005). The focus of LM is the value of any process from the customer point of view; this should be pursued identifying and reducing wastes and non-value added activities. A valuable support to LM can be provided by simulation modelling, which has a much longer history in healthcare, starting from the 1970s (Robinson, 2012). The aim of simulation is the improvement of process and service delivery using a computerised environment, in order to support decision making in several ways, like testing different scenarios gaining immediate feedback about proposed changes and promoting communication without compromising patient safety (Forsberg, 2011). Only a little attention has been paid so far to the potentialities that the combination of these models can give rise. Through a systematic literature review, this research aims to supply a comprehensive view of the state of art about the combined application of Health Lean Management (HLM) and simulation, gaining incremental benefits in health service delivery.



## RESEARCH QUESTION AND METHODOLOGY

Deepening into the goals that the review will pursue, this research aims to identify the consequent implications of combining LM and simulation in a shared methodology, in terms of outcomes, limits and potentialities. The identification of the most frequently employed tools is another relevant matter which needs to be investigated. Lastly, the intention is to provide both a comprehensive framework for healthcare managers and stimulating suggestions for further research activities. Starting from these goals, a systematic literature review was carried out, in order to find out the most rigorous, valuable and rich evidences. The adopted model is an adaptation based on current methodologies developed to conduct a systematic literature review (Brereton, 2007; Kitchenham, 2004). The definition of the research strategy, selection criteria, quality assessment of the articles, strategy of analysis and extraction of data were reported in the created review protocol. The selected academic databases were: Medline, Web of Science Core Collection, Scopus, PubMed and Business Source Premiere. The employed keywords were "Health Lean" and "Simulation". Once performed the paper search with these keywords, they were revised, in order to obtain a larger number of useful articles. Among the different available wildcard characters, an asterisk was used at the end of every keyword. Selecting the scientific articles through the criteria defined in the review protocol, a final database with 30 articles was obtained. The established selection criteria were the exclusion of duplications, of non-English language papers, of publications without references, of conference proceedings, book chapters and editorials of less than 3 pages. Lastly, a content-based selection was performed by reading the abstracts and, then, the full text of the papers. In order to assess the quality of the database, Impact Factor, SCImago Journal Rank and H-Index of each journal have been employed. According to the aim of the review, for every paper of the database descriptive data, like author, title, date of publication, country, journal's name, paper methodology, field of application, were gathered. Thanks to the content analysis, other features were investigated, like purpose, results, lean tools, simulation models and software, limits and future perspectives of the lean projects analysed in the papers. Moreover, the interactions among the analysed categories were studied in order to obtain new evidences.

## PRELIMINARY FINDINGS AND IMPLICATIONS

The quality indexes permit to certify the high relevance of the selected papers; according to that, most of the articles stand between the first and the second quartile (40% and 34% respectively). Through the descriptive analysis, several information was collected. Even if the combined application of Health Lean Management and Simulation is a relatively new topic, Robinson S., Burgess N., Chiocca, D., Guizzi, G. published two articles of the database each, becoming the first reference researchers. Looking at the period of publication, between 2005 and 2015, it is possible to note a low publication

rate for the first six-years stage, while in the second phase the number of articles doubles; even though a trend identification is still difficult, this rapid rise allows to forecast a growth in interest for the next years too. Scopus can be considered the most relevant database to be monitored, as it contains the 83% of the selected papers (25 of 30). The five scientific journals, that dedicate great space to the research subject and which therefore should be taken into consideration, are the following: *Journal of Nursing Administration*, *European Journal of Operational Research*, *International Journal of Procurement Management*, *Journal of Medical Systems*, *Total Quality Management and Business Excellence*. The most fruitful countries for the analysed topic are the US, UK and Italy, with 50%, 13% and 10% of publications respectively. With regard to the adopted methodology, most of papers present single or multiple case studies (60%); the remaining manuscripts are classified as simulations, conceptual papers (17% both) and literature reviews (6%). A preliminary content analysis has shown that the fields of application in which this methodology has been more frequently deployed are emergency, outpatient care, surgery, laboratory and sonographic analysis. Even if patients are the main focus of the most analysed processes, information flow, material flow and flow of clinical staff are studied, though to a lesser extent. The purposes which encourage the employment of these combined models are efficiency (23 times), clinical efficacy (4), process flexibility (4), staff coordination (3), patient safety (2), communication (2), process uniformity (2). The most applied simulation model is discrete event simulation through software like: SIMUL8, Arena, OptQuest and ExtendSim Process Modeling Environment. Another appreciated model is System Dynamics, but only one of its correspondent software (Powersim) has been mentioned once. It should be stated that almost 10% of the articles do not point out the simulation model, nor the simulation software adopted. The most frequent implemented lean tools and practices are value stream map, value and waste identification, kaizen events, 5S, pull strategy, gemba observation, continuous improvement, kanban and supermarket. A limit lies in considering LM as a set of tools, instead of a philosophy which should be developed through a whole-system strategic plan (Radnor, 2008): most of the described projects are realized through rapid implementations, adopting just one lean tool and focusing on short-term outcomes instead of considering sustainability. The involvement of all healthcare professions during the improvement events is mentioned in almost every article; on the other hand, just in one article an interest in patient involvement is highlighted (Chang, 2013). Analysing the interactions among the investigated categories, a correspondence between discrete event simulation and the adoption of lean tools, like Kaizen events and 5S is evident. Powersim and Obstat Simulation fit with a great number of lean tools. Moreover, objectives, lean tools and simulation models have been considered together, in order to find any interconnection. Every objective has been related with the recommended set of models and lean tools; for example, in order to achieve patient safety, the state of art suggests to use

discrete event simulation model or Obstat Simulation Software with tools and practices like value stream map, gemba observation, 5 why and A3. Even if researches in this field are scanty, the current study provides a comprehensive framework of the state of art, supplying paths for further investigations. In particular, several experiences should be developed, in order to better delineate both potentialities and limits of the synergy between HLM and simulation, trying to place every single improvement event in a prior strategic and sustainable plan. In addition, the potential benefit of patient involvement needs to be taken into consideration (Pearson, 2013). This systematic review can be valuable and gives support also to healthcare managers who are going to employ this combined approach; starting from their concern and purpose, they will have the possibility to find the most fitted set of tools and simulation software.

**Keywords:** *Health Lean Management, Simulation modelling, systematic literature review*

References are available on request

## VALUE CO-CREATION THROUGH CORPORATE COMMUNICATION: INSIGHTS FROM RUSSIA AND GERMANY

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### ABSTRACT

Modern Corporate Communications (CC) focusing on reputation related to social responsibility and legitimacy (Czinkota, Kaufmann and Basile, 2014) are linking businesses, governments and society in understanding the signals to further co-develop in a sustainable way (Belyaeva, 2016). This kind of communication embraces a variety of cross-functional and multidisciplinary concepts and goes beyond marketing theory aiming to advance both internal and external multi-stakeholder dialogue. Often, however, transparency and accountability of corporate communications are questionable if they do not reflect standards of business ethics and responsible and authentic leadership. This paper aims to analyze the changing tactics of corporate communications in terms of aspects on social responsibility. Pursuing a phenomenological research philosophy, we have attempted to compare international ways to communicate the businesses development in Russia and Germany via the case study method applying content analysis. The paper aims to fill the gap on how socially responsible corporate communications contribute to value co-creation.

The first part of the paper summarizes a number of approaches to define Corporate Communication. Based on mainstream literature, it tackles several key objectives:

1)It addresses key stakeholder groups to build, develop and shape corporate reputation (Cornelissen, 2008; 2014). It is suggested that the increasing knowledge public transfer neglects the public relations efforts of multinational organisations if they seem to exaggerate. In contrast to this particular focus on shaping company performance, Corporate Communication's objectives are originally twofold: to "communicate with different stakeholders for both moral (legitimacy) and instrumental (profit) reasons (Cornelissen, 2008)." The question arises if there should be certain limitations to apply Corporate Communication or as Czinkota, Kaufmann, and Basile (2014) and Kaufmann, Czinkota and Zakrzewski (2015) suggest to differentiate within Corporate Communications between a corporate reputation and legitimacy orientated mindset and behavior underpinning this statement by a synthesis of multidisciplinary concepts such as identity, thermodynamics, system or complexity theory.

2)It is described as "an instrument of management" to integrate internal and external communications in one strategy (Riel & Fombrun, 2007)," to create a favourable basis for relationships with groups upon

which the company is dependent" (Riel & Balmer, 1997) By using different kinds of communicative materials (positive storytelling, reports, memos, events, campaigns, debates) companies are trying to transmit diversified messages to different groups of stakeholders as outlined by Dowling (2006).

3)It is a way to downsize negative effects from financial and corporate scandals, and also to neutralize critical perceptions as stakeholders ask "fundamental questions about the moral compass of all companies (Dowling, 2006)."

4)It is a "source of competitiveness". Gray and Balmer stated that "an increasing number of astute executives recognizes [corporate communication] as a critical corporate asset directly linked to competitive success." The corporate identity, defined as "the dynamic interplay amongst the company's business strategy, the philosophy of its key executives, its corporate cultures, and its organizational design" (Gray & Balmer, 1998) is transmitted and formed into an external corporate image or reputation through the channels of CC. In contrast to Dowling's model, Gray and Balmer stress that corporate communication might directly be influenced by the external image and the perception of a company with the goal of creating a competitive advantage rather than being purely based on the existing identity and culture (feedback of corporate image influences communication).

5)It is an integral part of business strategy to share insights into their culture and disseminate the value system. One core benefit of CC is the control that an organization possesses regarding the information it reveals to the public. Scholars agree that companies are trying to show "a particular positive image of the organization" (Cornelissen, 2008) when communicating to their external stakeholders. In addition, other scholars such as Gray and Balmer (1998) have seen the creation of a favourable corporate image only as one of two core objectives in increasingly using CC. In their opinion, an increase in the general awareness of a company's brand name is the primary motive. Again, the aspect of legitimacy in this context as mentioned earlier is suggested to be explicitly integrated into this equation.

This customization of communication materials further emphasizes the strategic position that professional communication has for an organisation. Within academic literature a variety of models and theories further illuminate the business strategy behind corporate communications, but to our knowledge no research, so far, has discovered the value co-creation in terms of social responsibility of the organizations communicating their strategies.

The second part of the paper outlines positive and negative effects of corporate communications as well as classifies some strategies to perform communications in accordance with the five customized objectives of strategic and responsible communication described in the first part of the paper.

A company's culture, values and actions are directly influencing the way a corporate story is communicated to all stakeholders, which, in turn, influences their understanding of and belief in the organization. This increased corporate reputation and/or legitimacy might lead to improved business outcomes and represents therefore the economic motivation for companies to publicly share insight into their operations, values and beliefs. While defusing the direct link between communication, corporate reputation, legitimacy and performance (or in the case of Gray and Balmer competitive advantage), the usage of corporate communication has a potential power to increase both Corporate and Social Performance to co- create shared values with an extended circle of stakeholders.

The socially responsible communication has to ensure that all of the stakeholders, whether internal or external, can voice their opinions or grievances with the values that the organizations claim to uphold. To this effect, companies have to ensure that they are using the right kind of communication method. Morsing and Schultz (2006) have identified three common communication strategies used by organisations: the stakeholder information strategy, the stakeholder response strategy and the stakeholder involvement strategy .

Finally, the third part of the paper attempts to validate the findings derived from the literature study above. We have performed a comparative documentary analysis (websites and other sources of public communications of 20 public organizations embracing companies, universities and municipalities in Russia and Germany. In addition, we have also performed in-depth interviews with management representatives of the studied companies to test the findings. It is interesting to see that our results show differences between perceiving the corporate communications role in shared value co-creation between different types of organizations, but not between the two countries.

The research is limited by the sample size, but shows some novel interesting facts, which could be used to develop a better integrated CSR and communication strategy for all types of organisations in order to stimulate its sustainability, harmonization with multistakeholder groups and advancing business and social values.

**Keyword:** *CSR, value creation, corporate communication, multistakeholder approach, Russia, Germany*

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## STUDENTS' LEARNING OUTCOMES FROM A MULTICULTURAL LEARNING ENVIRONMENT

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### ABSTRACT

In today's environment, business interconnectivity and multicultural societies are becoming the normal way of living. Especially, recent migration waves are challenging societies to cope with such cultural diversity. More than ever before, students are increasingly facing multicultural environments. They need to be aware of the challenges and opportunities these offer, and their readiness and willingness to work in collaborative productivity needs to be nurtured. The learning environment should offer a harmonious and fruitful setting for the acquisition of such intercultural skills. Therefore, it is necessary that the students are aware of their communalities and differences with other students to gain cultural understanding. The speed of how students develop their cultural intelligence will be impacted by the students' co-operative social skills and the amount of interactions in multicultural environments.

It is an imperative for educational institutions to provide as many opportunities as possible to gain this knowledge. The EU with the Erasmus program is one of the most successful ones.

The aim of this paper is to analyze the skills and attitudes development of students after having participated in multicultural teams in an intensive program. The project relates to Marketing Communication of European Entrepreneurs, with the acronym Marciee.

The research was conducted using quantitative methodology. The questionnaire design was based on the one developed by Prof. Dr. Armstrong (Wharton School, University of Pennsylvania). It probes, through the students' self-assessment, their progress made during the participation in the project. The analysis presented in the paper is mostly descriptive, comparing the progress in knowledge and skills of the participating students of various nationalities from before the start of the intensive program to its end.

Some research findings relate to attitudes towards developing and sharing knowledge, stress, attitudes towards learning and task orientation, intercultural communication, and cultural awareness skills related to cultural impacts on the different learning styles when working in multicultural teams.



**Keywords:** *entrepreneurship, marketing, multicultural learning, culture*

## FIRMS INVESTMENT STRATEGIES IN IC RESOURCES. A DYNAMIC PERSPECTIVE

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### ABSTRACT

The development of new business sectors and, in particular, the rise of the “new knowledge economy” have led to an increased emphasis on intangible assets. Indeed, intangible resources are increasingly emerging as the new competitive drivers for creating value in global business markets (Stewart, 1997; 2001; Sveiby, 1997; Marr and Schiuma, 2001; Skoog, 2003; Marr et al., 2004; Guthrie et al., 2006; Sharma et al. 2007; Oliveiras et al., 2008; Yi and Davey, 2010; Schiuma, 2011). Within accounting literature, several studies have focused on the analysis of value relevance of the identifiable intangible assets and/or goodwill (McCarthy, M.G, and Schneider, D. K. ,1995, Lev and Sougiannis, 1996; Aboody and Lev, 1998; Han and Manry, 2004; Deng and Lev, 2006; Cazavan-Jeny and Jeanjean, 2006; Oswald and Zarowin, 2007; Oliveira et al., 2010).

These studies empirically explore the investors’ perception about intangibles recognized on financial statements, not also considering the potential impact of firm’ intangibles internally generated. However, a comprehensive analysis about the contribution of intangibles resources to the company value should consider all of intellectual capital (IC) resources managed by the firms, regardless of their accounting recognition on balance sheets (Bontis et al., 2000; Chen et al., 2004; Tseng and Goo, 2005; Huang and Hsueh, 2007; Kamukama et al., 2010; Chang and Hiesh, 2011). As stated by Stewart (1997), “Intellectual capital is intellectual material-knowledge, information, intellectual property, experience, that can be put to use to create wealth”. In particular, intellectual capital resources are considered as strategic key sources of sustainable competitive advantages (Itami and Roehl, 1991; Nahapiet and Ghoshal, 1998; Subramaniam and Youndt, 2005; Teece, 2002; Curado et al., 2011; Sydler et al. 2014), thereby contributing to increased firms’ wealth (Cheng *et al.*, 2010; Molodchik *et al.*, 2012; Naidenova and Parshakov, 2013). According to Edvinsson and Malone (1997), the intellectual capital can be divided into three categories: human capital, structural (organizational) capital and relational (customer) capital. The purpose of this study is to verify the relationship between the aforementioned three pillars of intellectual capital (human, structural, and relational capital) and the firm value creation, under a dynamic perspective. In particular, a reciprocal effect between new created firm wealth and IC component should exists: companies generating higher firm wealth are likely to invest more resources in IC (Naidenova and Parshakov, 2013). Therefore, we control for this dynamic

reciprocal relationship by using the dynamic panel data models. The empirically analysis is carried out over a time period of ten years (2005-2014) on a sample of all European listed companies operating in pharmaceutical, retail, steel, telecommunications, and service industries. To the best of our knowledge, this is the first study exploring the relationship between the three pillars of IC on the firm value creation of European listed companies, by using the dynamic panel data models. This study contributes to the extant literature on intellectual capital by shedding light on the propensity of European companies to different IC investment strategies, taking into account the impact over time of the new created firm wealth.

**Keywords:** *intellectual capital, investment strategies, firm value creation, European companies, dynamic panel data models*

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## INTERACTIVE SESSION: KALEIDOSCOPE THINKING: MULTIPLE PERSPECTIVES ON THE DEVELOPMENT OF CROSS-CULTURAL COMPETENCE

The following panelists with a variety of experiences will share their own stories of acquiring cross-cultural competencies. This engaging session, illustrated with many visuals, is centered on five key points, including questions raised, and reference to a variety of relevant scholarship. For all of us, and those with whom we interact in universities and business, the challenge is how to be effective in a highly globalized time, characterized by "the interconnectedness of the world in economic, cultural, and social terms, and the incessant circulation and intermingling of human beings of diverse backgrounds and aspirations" (Gardner, 2007, p. 37). An ongoing conversation with session participants is the goal of this interactive session.

**Bombelli, M. Cristina<sup>1</sup>; Jirkovska, Blanka<sup>2</sup>; Sawyer, Carol H.<sup>3</sup>; Walling, Barbara<sup>3</sup>; Odrakiewicz,  
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### OUR RETURN TO EUROMED

One of the highlights of the Eighth Annual EuroMed Conference on Business [Verona; September 2015] was the well-received multi-presenter research-based paper titled *"Thoughtfully Curated Consulting and Teaching Practices"*. Four of the five scholars who integrated their ideas for that session are now proposing a similar format for the 2016 EuroMed Conference scheduled for Warsaw in September.

Recognizing the power of story for engagement and insight, these individuals seek a conference-based opportunity for rich dialogue on a topic of high interest to many: **cross-cultural competence** and a variety of ways to develop such competence.

### THE CHALLENGE

For all of us, and those with whom we engage in universities and business, the challenge is how to be effective in a highly globalized time, characterized by "the interconnectedness of the world in economic, cultural, and social terms, and the incessant circulation and intermingling of human beings of diverse backgrounds and aspirations" (Gardner, 2007, p. 37).

Why this is important is captured well by Harvard's Howard Gardner, who advocates for five minds for the future. He emphasizes the need for a *respectful mind* with these words:

"We live in an era when nearly every individual is likely to encounter thousands of individuals  
Innovation, Entrepreneurship and Digital Ecosystems

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personally, and when billions of people have the option of traveling abroad or of encountering individuals from remote cultures through visual or digital media. A person possessed of a respectful mind welcomes this exposure to diverse persons and groups. A truly cosmopolitan individual gives others the benefit of doubt; displays initial trust; tries to form links; avoids prejudicial judgments” (Gardner, 2007, p. 38).

## SHARING OUR STORIES

What are the skills and attributes needed for success in working and living cross-culturally?

Each of the five consultant-scholars who will join this proposed conference session has had power-filled learning experiences and then reflected upon those experiences to enrich both professional and personal life. While the five individuals differ on multiple dimensions (gender, age, nationality, career path, academic discipline . . . ) their stories share a common thread of *questions asked and answered*—a direct connection to the Verona session that first brought them to EuroMed last year. Like the session shared in Verona, the session presenters will each speak briefly, using visual enhancement, and will link their unique stories and perspectives with a shared structure and theme. The session will be characterized by an approach Rosabeth Moss Kanter identifies as *kaleidoscope thinking*:

“a way of constructing patterns from the fragments of data available, and then manipulating them to form different patterns” (Kanter, 1999, p. 18).

The initial list of guiding questions for each participant’s story includes these:

What I experienced

Why I know it was important and of value for me (and for others)

What I will remember always

What I still wonder about--a question to take away

How this experience contributed

to developing my skills of cultural competence

for this highly globalized world

## WHO WE ARE

Presenter #1– *An executive coach with almost thirty years’ experience in university teaching in management and human resources. She has researched and published in the field of management, including attention to generational differences, cross-cultural approaches, and gender studies. A somatic coach, she has created a diversity-focused consulting and training firm, and is president of a nonprofit organization focused on elder care. Her research in Asia led to a book published in Italian.*

Presenter #2 – *A sociologist now teaching and researching, her approach lies in linking academic knowledge with research and consulting activities in organizations. Particular interests include the psychology of work, sociology of organizations, organizational development, working conditions and quality of life of employees, and psychosocial determinants of health. Her travels and studies abroad both raised questions and answered them.*

Presenter #3 – *Her twenty years' management experience in business, government and nonprofit organizations was followed by an award-winning teaching career characterized by attention to design thinking for strengthening graduate management education. She is passionate about the application of the arts and of learning theory in both managerial and educational settings. Her career has been characterized by frequent international work in leadership, organizational change and organizational development. Her California-based graduate students have collaborated in developing shared course assignments with graduate students in Russia.*

Presenter #4 – *She is active in both consulting and teaching to develop individual and organization-based innovative thinking through experiential activities. She has twenty-five years' career expertise in marketing, business development and strategic planning, principally in health care and community-based organizations. Her research interests include organizational effectiveness in a multi-generational, multi-cultural workforce. She is particularly interested in cross-cultural competencies and was involved in interview and survey-based research that explored cross-cultural competencies in four European countries.*

Presenter #5 – *His career in academe and business includes teaching, administration and entrepreneurship on multiple continents. His active leadership with professional associations has been one of high visibility and contribution to students, colleagues and higher education institutions. His personal story is a compelling one of immigration and resulting cultural adaptation.*

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## **YOUNGER BOARDS AND CORPORATE PERFORMANCE**

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### **ABSTRACT**

#### **PURPOSE**

This study aims to shed light on the relentless debate regarding board composition. It specifically looks at the relationship between corporate performance and the age of members on the board of directors in a multi-country framework.

#### **DESIGN/METHODOLOGY/APPROACH**

The unique dataset constructed to facilitate the study comprises details on nearly 26,000 directors, across 11 countries, over 3 years. The sample consists of directors from Croatia, Estonia, France, Greece, Ireland, Italy, Moldova, Monaco, Netherlands, Russia, and United Kingdom (UK). The top 4 countries with the highest number of directors are UK, France, Italy and Greece (in descending order) accounting for 83% of the total number of directors included in the study. Following Fich and Shivdasani (2006) a high market-to-book ratio (MTB) is assumed to be indicative of good corporate governance, and hence, used as market measure of corporate performance. Additionally in order to avoid incorrectly treating a high MTB caused by underinvestment as indicative of good governance, operating (accounting) measures of corporate performance are also used. A number of control variables from the corporate governance literature are included; such as director tenure, company age, board size, number of blockholders, years since the initial public offering, family ownership and firm size (Monks and Minow, 1995).

#### **FINDINGS**

The mean value for directors' age is 55 years, with the youngest and the oldest directors from the UK (20 and 96 years old, respectively). Evidence supports the firm size effect. There is a positive and significant relationship between firm size and directors' age. Controlling for firm size, short-term operating performance and long-term market measures of performance are higher for companies with younger directors. However in terms of long-term operating performance, also controlling for firm size, companies with older directors outperform.



In both univariate regressions and multivariate regressions including all control variables, there is a negative and significant relationship between accounting performance and directors' age, regardless of firm size. However market measures of performance tell a different story. In univariate and multivariate regressions including all control variables and run separately for small and large firms, director age is insignificant statistically. Surprisingly, only in the long-term, there is a negative and significant relationship between market measures of performance and directors' age, regardless of firm size and regardless of the control variables used.

## ORIGINALITY/VALUE

This study contributes to the literature on board characteristics and firm performance. It specifically focuses on directors' age and explores its performance effects taking into account other board and firm level variables. Its originality stems from the construction of the multi-country (non-US) dataset and large sample size.

## IMPLICATIONS

These findings have implications for practitioners, managers, individual and institutional investors and policy makers. In the US, The Investor Advisory Committee was created by Mary Shapiro when she was appointed as Chair of Securities and Exchange Commission (SEC) in 2009. The main purpose of this committee was to provide input to the SEC about issues that are of concern to investors such as board composition and diversity. Similarly, California State Teachers' Retirement System (CalSTRS) is known for its activist approach to institutional investing as well as for petitioning the SEC in terms of more disclosure with respect to corporate board diversity.

Hence the results of this study are valuable in terms of providing non-US evidence to an ongoing debate on board composition.

**Keywords:** *Corporate Governance, Board of Directors (BOD), Boards, Directors' Age, United Kingdom (UK), France, Italy, Greece.*

## ACKNOWLEDGMENTS

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## INDUSTRIAL DISTRICTS AND INTERNATIONAL SUPPLY CHAINS: THE CASE OF ITALY

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### ABSTRACT

During the last decades, industrial districts (IDs) have been object of increasing interest, and several studies examined this issue from different perspectives (De Martino, Reid, and Zyglidopoulos, 2006; Molina-Morales, 2001, 2002; Musso and Francioni, 2012). According to Becattini (1992) industrial districts can be defined as “territorial concentrations, in a quite circumscribed area, of firms, for the vast majority of small and medium size, which produce goods or services functionally linked to a main production activity, embedded in the social life of a certain locality or a network of localities”.

One of the topics that has been particularly investigated (Belso-Martinez, 2006; Costa and Viladecans, 1999) is how the belonging to IDs can enhance the competitiveness of firms in foreign markets (Pla-Barber and Puig, 2009). Results from the majority of these studies revealed that there is a positive relationship between the belonging to IDs and international performance. However, according to Pla-Barber and Puig (2009, p. 437) “most of this research adopts a partial view of internationalization, as it uses only the tendency to export as a proxy to reflect the level of competitiveness and internationalization of the companies in question”. Therefore, following a similar approach of the above mentioned authors, we examined the relationship between the belonging to IDs and import activities of firms.

For achieving our objectives, we carried out a quantitative research using a sample of Italian small and mid-size manufacturing companies. Firms were identified from a list obtained from Aida, a database containing information on about 1 million companies in Italy. However, the sample population was chosen according to some criteria, such as SMEs (according to the European Union definition), belonging to a manufacturing sector and with contact information available, including email address and telephone number. As a final result we collected 169 correct responses. Firms stating they never carried out either import or export activity (26) have been excluded from the sample. Therefore, a total of 142 firms constituted the sample, which was split into two groups: firms located within IDs (44.4%) and outside IDs (55.6%).

The research process is in progress. The final results of the study will derive from descriptive statistics and a correlation matrix before carrying out the statistical analysis, such as a regression.

However, our preliminary findings revealed that firms belonging to IDs have a less accelerated pattern of internationalization in import strategy than non-district firms, as the 47.5% started importing from less than 20 years (versus the 39% of non-members). Quite consequently, only 11.5% of ID members began more than 40 years ago, versus 20.8% of non-members.

In these dynamics, it is possible to identify a greater ability of non-district firms to respond to changes, especially those related to globalization. On the district companies side, they resulted longer tied to intra-district supply relationships, starting later in the search for international suppliers, in order to exploit better cost conditions or quality / technological innovation through the management of international supply chains.

Moreover, compared with ID members, non-district firms have more import and export relationships. Indeed, 29.9% of non-ID members create import relationships with less than five countries (versus 43.5% of ID members); moreover, 9.3% of non-district firms have export relationships with less than five countries (versus 13.6% of ID members). This result puts in light a correspondence between the numbers of years of experience in international purchasing and the number of supplying markets, suggesting a process similar to what described by gradualistic theories on firms' internationalization (Johanson and Vahlne, 1977; Cavusgil, 1980; Reid, 1983). Therefore, the gradual process seems to be not just related to export activities but also to import activities.

The first contacts with foreign suppliers are created by SMEs mainly through the attendance at both national and international trade fairs. However, in several cases is the foreign supplier who approaches the firms. About this, non-district firms seem to be more active in searching suppliers in foreign markets, mainly by the use of new technologies (web and social networks), and this is consistent with the fact that, without the support of the district network, firms increase the amount of efforts in order to find foreign suppliers and, more in general, to achieve competitive advantage by exploiting factors and benefits that can result from outside the industrial district.

With reference to the perceived problems in the relationship with foreign suppliers, results do not reveal specific critical aspects, being almost all indicators considered as not particularly problematic. However, even in this case there are differences between district and non-district firms, since the latter consider fluctuations in currency exchange rates as the most problematic factor, and, on the other side, district firms perceive as more relevant some issues related to cultural differences, such as language, different negotiation style, different rules in business relationships. This can be considered a natural consequence of the fact that ID members generally create relationships with suppliers located into the industrial district, and they consider other relationships as more critical and problematic.

As a first conclusion of this stage of analysis, it can be stated that an ability to actively approach the supplying market at international level does not emerge from ID firms. The traditional character of

industrial district, primarily focused on internal relationships and slightly open to external influences seems to be confirmed. No indication arise about co-evolutionary processes in the direction of a more strategically oriented approach to the internationalization of supplying markets.

**Keywords:** *International supply chain, industrial districts, purchasing, buying strategies.*

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## MULTIVARIATE ANALYSIS MODELING OF THE VARIABLES DETERMINING FEMALE ENTREPRENEURSHIP

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### ABSTRACT

### INTRODUCTION

Despite being widely recognized as the driving force for a country's development and economic growth (GEM, 2013/2014), nowadays entrepreneurship has also become fundamental to the redefinition of gender (Langowitz & Minniti, 2007; Shabbir & Di Gregorio, 1996). This in the hope of destroying the cultural barriers that provokes the population not to believe in women as individuals capable of running their own enterprises (Kargwell, 2012). Hence, a number of countries are now concerned to improve their regulations to respond to this new demand, allowing gender discrimination to decrease gradually to, perhaps one day, completely disappear.

This study aims to find factors or variables that lead women to start enterprises and, thereby, to provide governments or organizations focused on these topics with useful information. The search will be conducted by means of collecting these variables in 3 reliable sources, namely the World Bank, World Economic Forum and Global Entrepreneurship Monitor, in different countries during the 2008-2013 period. Once the variables are gathered, the models that best describe this situation will be found by using econometric tools such as multivariate analysis.

### LITERATURE REVIEW

Women participation in enterprises is increasing over time (Brush, De Bruin, & Welter, 2009), yet is still less than men's participation. Since the 1990s, studies on female entrepreneurship have focused on 4 baselines (Castiblanco, 2013):

The first line objective is to find female entrepreneurs' sociodemographic characteristics. Among these, it may be highlighted that women seek long-term returns and are characterized by being self-efficient, constant at work, perseverant, socially skilled and self-confident. In addition, they look for institutions support, since these entrepreneurs perceive themselves as already possessing the necessary personal skills (Navarro, 2014; Barba Sánchez, 2007).

The second line aims at finding differences among enterprises according to gender. Some studies point out that men's initiative and desire to carry out enterprises are greater than women's (González, 2001;

Rodriguez & Santos, 2010). Furthermore, the size of the enterprises started by women tends to be smaller than men's, in terms of both income and personnel. This might be due to the fact that women concentrate more on businesses oriented to retail or services, whereas men do so on high technology and manufacture (Castiblanco, 2013).

In the third line are those authors that intend to explain entrepreneurship as a social process vital to gender redefinition. Governments have concentrated on achieving more gender equality, since half of the world population are women, and not considering their human capacity and talent is causing a loss of well-being (World Economic Forum, 2015). In fact, estimates predict that if this inequality were reduced, this would boost world economy by \$12 trillion in the next decade (World Economic Forum, 2015). Following this line of thought, a good way of promoting women's economic and social empowerment is entrepreneurship (International Labor Organization (ILO), 2011).

Finally, in the fourth line, are those that seek the nature of the difficulties and setbacks female entrepreneurs face, and try to group them into categories (Aidis, Estrin, & Mickiewicz, 2008; Amine & Staub, 2009; Welter & Smallbone, 2008). The economic literature proposes 3 important factors, namely previous influences, business incubators and environmental factors (Jia, Parvin, & Rahman, 2012). Based on Álvarez, Noguera and Urbano's (2012) studies, which, in turn, are based on the institutional economics theory and, specifically, on North's assumptions (1990 and 2005), the environmental factors that condition female entrepreneurship may be divided in two categories: formal and informal (Alvarez, Noguera, & Urbano, 2012). Formal factors are funding, non-economic support policies for business creation and training, while informal factors are the perception of women's skills, contact and social networks and family role.

## METHODOLOGY

In the present study, an analysis of the possible variables influencing and conditioning women's probability of undertaking enterprises is conducted, taking the scenarios of 55 countries along a 6-year period (2008-2013) as reference point, and using 30 variables collected by the World Bank, Global Entrepreneurship Monitor (GEM) and World Economic Forum (WEF).

First, the methodology consists in find the multivariate method that better adjusts to the requirements. For this reason, at a first stage, discriminant analysis is used. Then, at a second stage, factor analysis is carried out in order to reduce the quantity of data, but comprising the highest quantity of information. Finally, discriminant analysis is performed again.

The dependent variables used are female entrepreneurship, female entrepreneurship for opportunity, and female entrepreneurship for necessity (GEM, 2014).

## RESULTS

Models showing the highest canonical correlation and percentage of correct classification of data obtained by the confusion matrix were selected as best models.

For the variable “female entrepreneurship”, the final variables were adolescent mother, fertility, unemployment, higher education training in entrepreneurship, institutions, infrastructure services, and norms and culture. This variable presents a canonical correlation of 0.850 and a correct classification of 94.4%.

In the case of the variable “female entrepreneurship for necessity”, the influencing variables were previous entrepreneurship, taxes, institutions and dynamic market. This variable showed a canonical correlation of 0.806 and a correct classification of 92.1%.

As for the variable “female entrepreneurship for opportunity”, the influencing variables were fear of failure, previous entrepreneurship, adolescent mother, fertility, taxes, institutions, and norms and culture. This variable presents a canonical correlation of 0.875 and a correct classification of 97.2%.

**Keywords:** *Entrepreneurship, gender, multivariate analysis, GEM.*

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## CHARACTERISTICS OF THE COOPERATIVE SAVING AND CREDIT SYSTEM IN CHILE

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### ABSTRACT

### INTRODUCTION

Saving and Credit Cooperatives (SACCOs) represent one of the most important sources of development in emerging economies (CICOPA, 2014) and, thus, they have experienced an important growth over the last few years. However, it is worth noting cooperatives in Chile have not reached the development levels of its less and more developed counterparts (World Co-operative monitor, 2014).

This study aims at making a diagnosis of the factors characterizing the cooperative saving and credit system in Chile by means of a mix method study, which would allow the elucidation of diverse general aspects of the behavior and characteristics of SACCO members and management. This is carried out by studying two areas of SACCOs: first, members without board or management positions, delving into the reasons for which they join a SACCO and into the characteristics of their credit behavior; second, board members of SACCOs, delving into the strengths and weaknesses they perceive regarding the management of these.

### LITERATURE REVIEW

One of the principal challenges saving and credit cooperatives face is their adequate management by the board (Branch & Baker, 1998). Good governance can enhance the performance of SACCOs and help them to sustain in the long term (Thomsen, 2008).

Another point that Branch and Baker(1998) stress is that cooperatives become more complex to manage as they grow larger, since more specific knowledge and skills that members may not possess are required.

For a board to be competitive in the market, it requires proper remuneration. Several members of these cooperatives have lower-middle incomes and, thus, constantly criticize the difference between their own salaries and the board members', which are competitive in the financial market.

SACCO members might believe that high wages are paid at the expense of their gains. This fact results in poor management of the institution, moral problems and inability of the SACCO to attract quality human resource that produces good results (Branch & Baker, 1998).

Before an increase in the number of members, a structure that supports adequately all their requirements becomes necessary. Therefore, the cooperative needs to increase the human resources and these, in turn, have to adapt to the cooperative organizational culture. If the growth is gradual, it does not generate any inconvenience to the new workers, since senior staff “educates” them. On the contrary, if there is an explosive growth, senior staff may not be able to imbue the just arrived with the cooperative culture, causing a loss of organizational culture (Labie & Périlleux, 2008).

One of the main characteristics of the cooperative model is that owners are both borrowers and lenders. This causes an agency theory problem (Jensen & Mecling, 1976) in which the owners may disagree with the agent or manager view. This type of management contradicts the interest of the administration, since the board of directors may be far more interested in guarantying cheaper and more affordable loans than in the financial viability and profitability of the SACCO (Branch & Baker, 1998).

Zelizer (2013) observes in the book *The Purchase of Intimacy* that intimacy and economic activity are far from being in separated spheres. Contrarily, they are closely related.

## METHODOLOGY

This study was based on a mixed model, as it makes use of qualitative and quantitative methodologies. This is due to the nature of data: some was gathered through a survey—since the purpose was to characterize SACCO members—, and other by qualitative methods—to obtain the personal views of members and directors.

For data collection, focus group with members and directors of the board were conducted. Then, the information retrieved was studied by content analysis. In addition, an exploratory survey was applied to a sample composed of 409 persons.

## RESULTS

First, it was observed that the majority of participants stated having entered SACCOs through some friend or relative that had recommended the service. It must be noted that many of these cooperatives were founded by different leaders (priests or military high commands) who invited their followers to join. Then, the latter would invite their family and friends to the organization, which makes sense if the history of Latin-American cooperativism is reviewed (Pérez, 2003).

The abovementioned leads to an element that constantly appears in different topics: the importance of the sense of family inherent to cooperatives, which strengthens the organization by building up loyalty, but also stands as a different ideological option before the perception of a hostile marker. In this point is important to note that the territorial or institutional roots of some cooperatives exacerbate this family sense, since their members share common characteristics.

As for the qualified personnel, Branch and Baker (1998) posit that cooperatives tend to encounter problems to attract qualified personnel, because these employees usually have salaries according to the market, which are higher than the members (lower-middle income). Nevertheless, the results from the conversation groups point to a view that values the incorporation of specialized human capital since it invigorates the SACCO operation.

Men use more money for financing businesses and give presents, while women do so for paying education and medical expenses, which is closely related to the stated by Zelizer (2013) regarding the roles women and men are vested in the society. This approach proposes that women use their income for paying household expenses and family care, while men use it for paying the rent or mortgage. However, it is interesting that women more frequently use these credits to pay the rent, since according to Zelizer (2013) this expenditure would be regarded as a masculine activity.

One interesting finding is that women have a special verbal behavior. They tend to express their opinion much more than men when their cooperative circumstances are positive, whereas men tend not to share remarks on their cooperatives when these are in trouble. In both cases, women verbal behavior is superior to men.

Finally, people from lower strata generally use their credit for lending to other person, which may be explained by the difficulty to access the peer credit system and by a solidary conduct to this impossibility of others to buy food, a car or to pay medical expenses.

**Keywords:** *Cooperatives, saving, credit, economic environment, gender.*

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# **AN EXPLORATORY ANALYSIS OF COST OF QUALITY AND QUALITY MANAGEMENT MATURITY: THE CASE OF GREEK FOOD & BEVERAGE ENTERPRISES**

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## **ABSTRACT**

### **PURPOSE**

In our research paper we present the results of a survey conducted among Greek Food & Beverage (F&B) enterprises. The aim of the survey is to depict the extent to which F&B enterprises implement Quality Costing practices and to analyze the relationships and correspondences that emerge between the level of Quality Management Maturity and the Quality Costing system of enterprises.

### **THEORETICAL BACKGROUND**

Cost of Quality (CoQ) is a management tool for effective quality improvement prioritization and cost reduction, which has been introduced in literature by Juran (1951) and Feigenbaum (1956; 1991). It involves the analysis of costs into 4 categories: Prevention, Appraisal, internal Failure and external Failure costs (P-A-F Model), and provides input and feedback to quality systems which are responsible for quality improvements (Campanella, 1999).

The importance of the analysis of a company's quality system maturity has been highlighted in a number of papers (Sower et al, 2007; Prickett & Rapley, 2001; Brown & Ton Van der Wiele, 1996). In order to examine the relationships between quality costing practices and the maturity of the quality costing system, we chose Crosby's Maturity Matrix in the present paper, derived from Crosby's work (1979). Crosby has contributed to the wide acceptance of the CoQ concept and its practical implications in managing quality. His 'Quality Management Maturity Grid' identifies 5 stages of sophistication and business maturity 1) uncertainty 2) awakening 3) enlightenment 4) wisdom 5) certainty. In each one of these stages, 6 measurement categories are defined, which help the respondents recognize the content of each stage and identify the exact status their company is in.

## RESEARCH METHODOLOGY

The survey was conducted with the use of a structured questionnaire. The questions were categorical and had a 3-, 5- and 6-point scale. In order to analyze the relationship between the maturity level of the F&B enterprises and the extent of quality costing practices adoption, we use Multiple Correspondence Analysis, as it is applicable to a large set of categorical variables. It is the most appropriate tool for analyzing nominal categorical data used to detect and represent underlying structures in a data set. (Moschidis, 2015; Greenacre, 2007)

## CONCLUSIONS

Our research concludes that, although the majority of Greek F&B companies monitor quality costs, they do so in an informal and unorganized way. Quality costing is not an integrated process in their quality management. Given the fact that the Greek Uniform Chart of Accounts does not include specific quality related accounts, companies have no other option but to categorize quality costs under the general categories of overheads or other operating expenses (Chatzipetrou & Moschidis, 2016). Furthermore, the role that management plays in the Quality Costing implementation process is also emphasized. The above findings correspond in general with the maturity level of the companies' quality costing systems and support the supposition that there is a relationship between an increasing use of quality costing with increasing sophistication and maturity of quality management.

**Keywords:** *Cost of Quality, Quality Management Maturity, Greek Food and Beverage enterprises, Multiple Correspondence Analysis*

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## INVESTIGATING THE INTENTION TO USE E-GOVERNMENT SERVICES: AN EXPLANATORY STUDY

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### ABSTRACT

'E-government' (electronic government / e-gov) is an extremely interesting research field, with numerous academic and practical implications. Its empirical investigation gives rise for significant observations, since the existing international literature offers several research gaps.

Firstly, very few studies of the field are empirical in nature. Moreover, most of the existing empirical studies adopt a descriptive approach. The present study is explanatory (examines cause-effect relationships), offering much more depth of analysis than a descriptive study. Secondly, most previous empirical studies are concerned with the providers of e-government services. The present study empirically examines the perceptions of users / citizens. Thirdly, most studies adopt certain models and theories (TAM, DOI, TPB), failing to include other factors in their empirical analysis. Nevertheless, in studies that move beyond this limitation, research factors are selected without any justification. The present study uses a focus group methodology (collection of qualitative data) in order to develop its proposed conceptual framework (research model). According to the best of the researchers' knowledge, such an approach has not been used before in the literature of the field.

Under that context, the aim of the present study is twofold: (a) develop an original conceptual framework (research model) examining the factors that have an impact on the intention to use of e-government services, (b) empirically test that framework, using primary data collected from internet users located in Greece (empirical research). More specifically, the proposed conceptual framework includes thirteen independent factors (1. Trust in e-government services, 2. Trust in public administration, 3. Trust in internet, 4. Trust in other people, 5. Availability of resources, 6. Self-efficacy, 7. Perceived level of information, 8. Perceived quality, 9. Perceived ease of use, 10. Perceived compatibility, 11. Perceived functional benefits, 12. Social norms, 13. Perceived risk) and one dependent factor (Intention to use e-government services).

The development of the conceptual framework was based on two methodological steps: firstly, an extensive literature review identified the factors that have been used by previous studies as antecedents of e-government adoption (e.g. Abu-Shanab, 2014; Alawneh *et al.*, 2013; Liang and Lu, 2013); secondly, a panel of experts was used in order to discuss these factors and provide a list of the most significant ones. That approach was selected due to the significant number of factors that have been proposed in the literature. More specifically, the members of the research team used the opinions of citizens as a



criterion for selecting a specific set of factors from the extensive list that was provided from the literature review analysis. It is strongly argued that randomly selecting the research factors of the proposed conceptual framework would have resulted in the limited reliability of the present research.

The proposed framework was tested, using a newly-developed structured questionnaire in a sample of Greek internet users. The measurement of the research factors was conducted with the use of multiple questions (items) that were adopted from the international literature. All questions were translated to Greek and then back to English by another person, in order to detect and, consequently, improve discrepancies. The five point Likert scale was used for the measurement of all factors (1 = 'strongly disagree' to 5 = 'strongly agree').

Primary data were collected from a random sample of internet users. An online questionnaire (web-survey) was created and the participants of the survey completed the questionnaire online. The research period lasted two months (August-September 2015). Finally, 347 questionnaires were returned, while 338 valid questionnaires were finally used for the statistical analysis.

The validity and reliability of the questionnaire were thoroughly examined. The test for the content validity included the pilot testing of the questionnaire. The control for the construct validity was conducted in two steps. Each factor was evaluated (a) for its unidimensionality and reliability (Exploratory Factor Analysis), (b) for the goodness of fit to the proposed model (Confirmatory Factor Analysis). All tests concluded that the scales used are valid and reliable.

The testing of the conceptual framework was made using the Structural Equation Modelling (SEM) technique. The estimation of the structural model was conducted with the Maximum Likelihood Estimation method. In order to evaluate the fit of the overall model the chi-square value ( $\chi^2 = 286,25$  with 97 degrees of freedom) and the p-value ( $p = 0,0689$ ) were estimated. These values indicate a good fit of the data to the overall model. Moreover, other measures of evaluating the overall and the measurement model were used (Normed- $\chi^2$ , RMSEA, CFI, GFI, Construct Reliability, Variance Extracted). All these measures produced satisfactory results.

When taking under consideration the total effect (direct and indirect effect) of each of the thirteen independent factors on the intention to use e-government services, it is concluded that four factors have the highest impact. These factors are: (1) Perceived compatibility ( $r=0,67$ ); (2) Perceived benefits ( $r=0,51$ ); (3) Trust in e-government services ( $r=0,40$ ); (4) Perceived level of information ( $r=0,35$ ). The main conclusions of the study are summarised below:

- Perceived compatibility has both a direct and indirect effect on e-government adoption. Therefore, it is concluded that citizens tend to use e-government services that are compatible with their way of life. Practitioners should really focus on the enhancement of that factor. E.g. develop interactive platforms, through which citizens can communicate and make observations and proposals; adjust the provided

services according to their needs and expectations; collect data offline, in order to capture citizen needs and adjust the services accordingly; try to create a feeling of familiarity to citizens, maybe by adopting popular interfaces.

- Perceived functional benefits have the highest direct effect on e-government adoption. The focus of policy makers should be on the enhancement of the level of digital integration of e-government services, so that the physical presence of citizens is no longer needed. Moreover, 24/7 help desks should be created, so that help can be provided real-time, on a continuous basis.
- Trust in e-government services represents the belief that the system will perform in a reliable and consistent manner. In that direction, pilot testing (before implementation) of new e-government platforms should be conducted, so that the overall reliability of the system is ensured; specialized programmers should be employed; online data should be collected, right after service provision, concerning the level of service satisfaction (customer satisfaction).
- Concerning the enhancement of the perceived level of information, the following measures are being proposed: use mass media in order to underline the functional benefits of e-government services; inform citizens in physical distribution areas of public service provision; conduct seminars and student orientation initiatives; make extensive use of social media.

**Keywords:** *E-government, Intention to use e-government services, SEM, Greece.*

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# **AGRIFOOD START UPS AND THE ROLE OF THE TERRITORY: FOSTER MUTUAL BENEFITS THROUGH SUSTAINABILITY. EARLY INVESTIGATION IN PIEDMONT**

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## **ABSTRACT**

### **BACKGROUND AND AIM OF THE RESEARCH**

Business sustainability refers to the sum of environmental, social and ethical practices, programmes and concerns in processes design, as well as goods and services development. Nevertheless, sustainability of business is necessarily linked to the economic dimension. Therefore, profits generation is also functional for investing in the society, in the reference environment, and for serving multiple interests of external and internal stakeholders. That is why when considering a sustainable business, the social and economic aspects stand at the same level of priority and meet businesses and communities' expectations simultaneously. This is what Porter and Kramer (2011) point out as a set of policies and practices that can buster companies' competitive power meanwhile improving communities' economic and social conditions.

Sustainability is nowadays a strategic lever for redesigning business models with the aim of making the best use of innovation, research and development and face the competition through differentiating factors whilst benefiting the society as a whole. This is often defined as the capacity of managing the "triple bottom line" (Elkington, 1994): a process through which companies are involved in financial, social and environmental issues and opportunities, with implications in terms of profits, people and planet, given that industrial, social, and ecological systems are interrelated (Fiksel, 2006).

Therefore, businesses conducted according to responsible, environmental and social concerns create economic value and contribute to create healthy ecosystems, more effective interactions and stronger communities. Moreover, this social and environmental involvement represents a strategic lever and a driver also to improve the value and the image of a certain territory – where the benefits from businesses' involvement are both tangible and intangible – and, as a consequence, to decrease the foreign investors' perceived risk and augment its attractiveness.

Although, in recent years, the academic literature has been focused on the concept of creating value for the Region and on its integration with local companies, to the extent of our knowledge, little has been written about the way through which a territory can facilitate the activation of sustainable practices, by leveraging on local factors and resources and, can, therefore, affect and shape the nature

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and the evolution of its start ups. In particular, it appears that agribusiness start ups are relevant to the topic because of their high interaction and synergy with their territory, mostly based on sustainable drivers. This can improve consumers' perception of the area in terms of innovation, services and physical well-being of citizens, as well as enhancing the image and the identity of agribusinesses themselves.

The purpose of this study is to investigate which sustainable and innovative strategies both start ups and their territories can activate to favour social and economic growth in a logic of constant interaction and mutual benefits, by considering agribusiness start ups located in the Italian Piedmont Region.

In particular, the authors have identified two research questions:

1. How can a territory contribute to favour the start-ups creation and development, by securing cooperation among businesses, fostering innovation and sustainability?
2. Which innovative and sustainable strategies adopted by start-ups can enhance territory identity and stakeholders' perception?

## **RATIONALE OF THE RESEARCH - AGRIBUSINESSES IN PIEDMONT**

Data from 2014 ISTAT Report "L'Italia nel contesto europeo" [Italy in the European Context]) show that Italy is nowadays the leading European country in producing high quality agricultural and agribusiness products, with the larger number of DOP, IGP and STG products (DOOR Database of Origin and Registration, from Intesa San Paolo Studies and Researches 2014). Despite the fact that farmers – typically the protagonist of agribusinesses - have always been considered more producers than entrepreneurs (Burton and Wilson, 2006) and they are small in terms of employees and resources (the average employees per player is about 7.3 for the agribusiness including beverage sector, ISTAT, 2011), their role is evolving towards more complex forms of organization and impact on the territory. Between 2008 and 2014, the overall food sector comes second after the pharmaceutical one in regards to the value generated by its export; for the last six years it has registered a growth of about 34,3%, reaching a value of 5,5 billion Euros. Moreover, in 2015 first trimester, food sector export sees an increase of 6,2%, with agricultural products registering +7,6% and food and beverage reaching a +5,8% (ISTAT, 2015). Despite the good results in terms of export increasing, since 2008 the Made in Italy agribusiness has lost global market shares against the emerging markets (ISTAT, 2014). Moreover, it is to point out the peculiar characterization of agribusiness districts in Italy: players are grouped in 45 districts throughout the Italian territory, which employ 20,7% of the total amount of agribusiness workers and they represent the 14,5% of the whole agribusiness firms. Their weight on the total agribusiness export is equal to 42% (Direzioni Studi e Ricerche Intesa San Paolo, 2015).

For Made in Italy agribusinesses competing in a logic of mutual benefits with their territory represents a big challenge, which is linked both to the internal capacity and external policies for strengthening the competitive advantage of their business heritage, sustainable production methods, commitment with the territory. In particular, for start ups in this sector, those variables are crucial in order to succeed in the long term.

In this scenario, it is fundamental to highlight the relevance of sustainability in combining different interests and expectations in terms of environment, society, quality and economics that will lead to stronger financial performances (Eccles *et al.*, 2014).

Piedmont is the Italian geographical area (or Region) of consideration, given the strategic implications that agribusinesses and districts in this area represent not only for their reference territory but also for Italy as a whole and in some successful cases, for the foreign markets.

Piedmont is the leading Italian Region for artisan food production and the 4th Italian Region as far as food industry turnover is concerned (Federalimentare data), besides being the reference Region for its food export and for the DO (Denomination of Origin) and IG (Geographical Indication) products. It counts some relevant cities in the food industry and agribusinesses: Cuneo is the reference city for agricultural sector and agri-food. Bra (Cuneo) is the Slow Food headquarter and its philosophy, presidia and movements. Turin, where “Salone del Gusto” takes place every year and “Terra Madre” happens with the intent of sharing local traditions at a global level, counts endless number of typical food productions and artisan products.

## METHOD

A mixed methodological approach has been adopted in order to respond to the two research questions.

On one hand, an exploratory empirical analysis has been conducted on a sample of multiple stakeholders (reported in the following Table 1), in order to gather their perception of innovation and sustainability of agri-food businesses and their reference territory in terms of quality of life, wellness, potential future sustainable economic and social development of the territory, creation of new job opportunities and positive impacts on the environment. The investigation has been carried out through focus groups and in-depth interviews, considering a sample of 140 stakeholders in Italy (see Table 1) aged between 20 and 50 years, considering as driver of choice their proximity and knowledge about the agri-food business.

*Table 1. Investigated Sample*

Role	Quantity
Target audience	40
Small companies managers	20
Medium companies managers	15
Large companies managers	25
University students	20
Consultants and experts in firm strategy	20

On the other hand, the second step of the research has been focused on the investigation of eight agribusiness start-ups selected from the 2015 Turin Chamber of Commerce database and whose products are already placed on the Piedmont market and known by their target. Given the limited number of the considered businesses, the author had the chance to conduct in-depth interviews with their CEOs in order to gather information about: how the territory enhances and favours the business idea development and implementation, whether and if the territory represents a differentiating factor for the potential success of the business, whether and if the company can favour their territories through innovation, how sustainability is pursued and facilitated by the territory, which are the competitive advantages resulting from the integration between the company and its territory. The outcome of this step of the research has been the development of case studies, addressed to function as benchmarks for other similar agribusiness start-ups and a chance for sharing best practices of integration.

The expected results come from the combination between stakeholders' perception concerning the innovation and sustainability of agrifood industry and agribusinesses' analysed strategies in order to answer to the research questions previously reported.

Therefore, findings from both analyses will have two main implications.

Firstly, the authors aim at enriching the academic literature considering the link among sustainability, territory integration, stakeholders and agrifood start-ups.

Secondly, the objective is to suggest valuable and sustainable strategies to managers and entrepreneurs for shaping start-ups business models in an innovative and sustainable way as intrinsic characteristics to integrate better with their territory and favour the achievement of mutual economic and social benefits.

**Keywords.** *Agri-food industry, customer perception, innovative start up.*

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## BRANDING OF AIRLINE SERVICES: A CASE STUDY OF TWO INDIAN AIRLINES

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### ABSTRACT

The commercial importance of services has been growing globally in the recent years. Consequently, research aimed towards further understanding the branding of services has also gained impetus and the question of whether services should follow the same principles of brand building as manufactured products has been raised time and again. The present study has the following research questions: First, how effective is the brand building effort of Indigo Airlines (one private Indian airline)? Second, how effective is the brand building effort of Go Air (another private Indian airline)? By addressing these two research questions, the study attempts to answer the following larger research question: What are the driving factors for effective branding building in the case of airline services? The present paper uses case study research method, which is an empirical enquiry to understand any phenomenon in its real-life context. In order to achieve external validity with respect to airlines, replication logic has been used. This has been the basis of case selection. Indigo Airlines, started in 2004, is the leader in the Indian domestic market with a share of 37% in 2015-16. Go Air, also started at around the same time, is amongst the poorest performers at a present market share of 2%. By studying these contrasting cases with regard to brand building effectiveness, the authors aim to distill the key principles of effective branding with respect to airline services, specific to an emerging economy like India.

**Keywords:** *Branding, Airlines, Services, Brand Equity, India, Case study research*



# **LEADERSHIP COMMUNICATION: AN EVOLUTIONARY CONCEPT ANALYSIS**

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## **ABSTRACT**

Leaders and followers live in a relational world consisting of systems of interconnected relationships and richly interactive contexts. It is therefore presumed that leadership is a socially constructed, interactional phenomenon through which certain individuals attempt to define, or otherwise influence the reality of other individuals. As such, leadership should be considered in its activity rather than through the traits and heroics of individual actors as is found in some of the longstanding leadership theories.

Discussions on the topic of leadership communication are very rare and even harder to find are definitions of leadership communication. This, highlights the fact that the field of organisational communication has had limited engagement with the world of leadership. This is very unfortunate as more and more research indicate the essential role of leadership communication in organisations. In fact, effective leadership depends so much on effective communication that the relationship between the two is nearly absolute. The mere acknowledgement of communication as a component of the leadership process will no longer suffice.

In an attempt to capture the essence of leadership communication and supply a working description of the concept, a conceptual analysis of leadership communication was done using Rodgers' evolutionary conceptual analysis method. The purpose of this paper is to examine the concept of leadership communication as it relates to organisational effectiveness. The evolutionary method was chosen as its analytic philosophical base is grounded in dynamism (Rodgers, 2000). Through this method the ever changing dynamics and contextually dependent nature of the concept is revealed (Rodgers, 2000). Through the evolutionary conceptual analysis employed in this paper the defining attributes, antecedents, and consequences of leadership communication is explored, its related concepts is identified and its evolution is described. Identifying characteristics of leadership communication will help to clarify and develop conceptual strengths and limitations, providing a step toward evaluating its relevance to organisational effectiveness.

This analysis resulted in leadership being viewed as a unique form of communication. The current demand for a more transparent, ethical, people-centred and communicative approach to leadership is also highlighted. It is suggested that what is required is a communication-centred view of leadership

where communication is an integral part of the leadership process and a means of adding value to a company.

**Keywords:** *Leadership communication, Evolutionary Concept Analysis, Qualitative research, Strategic level competencies, Operational level competencies, Organisational effectiveness*

## **SOCIAL ENTERPRISES – SOCIAL CHANGE AND BUSINESS DEVELOPMENT: ARE THEY PARTNERS FOR TANGO?**

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### **ABSTRACT**

Social enterprise (SE) constitutes a hybrid organization, combining social and commercial components. SE provides an innovative alternative for engaging social issues while simultaneously coping with global competition in business. Such a hybrid organization is particularly viable in complex, contemporary societies featuring mounting diversification and social divisions. Its potential contribution to the current socio-economic intricacies largely depends on effectively addressing the governance challenge. The current study was a follow-up evaluation of a new SE in Northern Israel – a restaurant where youth at risk are trained in cooking-related professions.

### **RESEARCH AIMS**

The evaluation aimed to provide an in-depth perspective on the strengths and challenges involved in managing this hybrid organization. Special emphasis was placed on monitoring the relationships between the social and commercial activities, the relationships among the SE and its partners and the nature of the partnership.

### **METHODS AND RESEARCH TOOLS**

The research was based on a qualitative approach, embracing by and large the formative function of evaluation. The study extended over a period of one year. The research tools comprised in-depth interviews, focus groups, observations and archival data.

### **FINDINGS AND INITIAL CONCLUSIONS**

The major strengths of the SE are its economic sustainability, effective management of the restaurant and of the social component, stability of the staff and attractive scenic surroundings for the trainees. The main weaknesses are attrition of the trainees, ambiguity regarding the essence and training procedures, and inadequate learning of the social project. The case study reflects most of the challenges confronted by social enterprises.

**Keywords:** *social enterprise, hybrid organization, innovation, diversity, governance, complex society, partnership*

## DIVERSITY MANAGEMENT IN ACADEMIC INSTITUTION: STUDENTS' PERSPECTIVE

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### ABSTRACT

### INTRODUCTION

The 21<sup>st</sup> century displays growing diversity of societies and communities as a result of globalization, political and economic crises and ensuing migration (Coleman, Selden, & Selden, 2001; Kristeva, 1991). Such a complexity leads also to mounting intergroup tensions reflected in a variety of organizations. Research attempts to unravel the impact of social divisions on perceptions of diversity in organizations and patterns of responding to this challenge in an organizational arena (Desivilya Syna, 2015).

This study addresses the timely issue of managing diversity in organizations, focusing on the case of academic institution comprising a diverse student body. The issue is how the organization manages diversity so that students feel both comfortable, maintaining positive relations with students in other social groups and can thrive academically. The first phase of the study showed that academic staff embrace different perspectives concerning diversity management that are reflected in their educational practices. This phase of the study concentrates on students' perspectives and diversity-related experiences on academic campus.

#### *Experiences of diverse students at academic campuses*

The recent decades have been characterized by efforts at internationalization in academic institutions throughout the world, consequently mounting diversification of the student body. How does this trend affect diverse students' actual experiences? Previous studies show that students from various social groups view their academic life at campus quite distinctly. Research findings on American campus indicate that students of color in comparison to white students experienced lack of support and unwelcoming atmosphere in predominantly white campuses. Specifically, Afro American students tended to report more racial tensions on campus, complained more about unfair treatment by faculty and teaching assistants, experienced less respect for diversity and more pressure to behave in accordance with racial stereotypes in contrast with White students (Ancis, Sedlacek, & Mohr, 2000; Schwitzer, Griffin, Ancis, & Thomas, 1999).

Similarly, a study on the impact of intergroup and diversity-related activities at an academic campus in Israel, showed that minority students construed their campus experiences at the Israeli college in a different ways in comparison to their majority students counterparts (Desivilya Syna, 2015).

The current study aimed to extend the scope of research on diversity management at academic institutions by looking not only the minority-majority relations but also elucidating gender relations and the professional/academic discipline aspects of diversity in students' experiences. Specifically, it examined the students' awareness concerning differences among students, diversity climate and their personal sense of comfort at a diversified campus.

## METHODOLOGY

### *Participants*

Participants were 638 students (596 undergraduates, 42 graduate students) enrolled in a public college located in Northern Israel. The sample represented all the bachelor degree departments and two MA degree programs. Seventy five percent of the participants were women. Eighty four percent of the students were born in Israel, 14% in former Soviet Union and the remaining 3% in Argentina, Ethiopia, Holland, Morocco, South Africa and Switzerland. Nearly seventy nine percent (78.8%, 498) of the participants are Jewish, 14.6% (92) are Muslims and 6.6% (42) are Christians. The mean age of the students is 27 (SD = 5.18; range: 19-59).

### *Research Instrument*

The adapted version of Cultural Attitudes and Climate Questionnaire (CACQ), developed by Helm, Sedlacek, and Prieto (1998) was used in the current survey. This instrument was designed to gauge students' perceptions and experiences related to diversity climate at an academic institution. The respondents were asked to indicate their level of agreement with 70 statements regarding the campus climate. Six factors were extracted using principal axis factor analysis and varimax rotation, accounting for 69% of the total variance. The 6 factors are: **Supportive Diversity Climate** (alpha = .813), college-wide atmosphere of support and respect of diverse social groups; **Intergroup Tensions** (alpha = .761), perceptions and experience of ethnic tensions on campus, **Racism** (alpha = .837), experience of racist atmosphere propagated by faculty and students; **Diversity Comfort** (alpha = .777), experience of comfort with faculty and students of ethnically similar and dissimilar origin; **Diversity Awareness** (alpha = .781), sensitivity to differences among groups; and **Faculty and Students Support** (alpha = .856), experience of help and support from faculty and students.

The questionnaires were administered by the research assistant over a period of about a month in winter of 2015-2016, either at the beginning of a class period or at the end according to the lecturers' preferences.

## INITIAL FINDINGS AND INSIGHTS

The findings suggest that the overall diversity remains by and large marginal for the majority – Jewish students. As can be seen in Table 1, the latter are less aware than their Muslim and Christian counterparts of diversification in the student body at the campus. Women appear more sensitive to diversity than men. Table 2 shows that female students perceive greater intergroup tensions among groups, view the diversity climate as more supportive and reveal greater awareness concerning diversity at the campus in comparison to male students. As can be seen in Table 3, the findings indicate that students in quantitative disciplines of study such as economics and information technologies are less aware of diversity in comparison to students in disciplines more related to societal issues and human behavior such as social and behavioral sciences, human services, health care systems management and MA programs.

The study lends support to the contention that diverse students differently perceive and form distinct experiences with respect to diversity at an academic campus. Longitudinal follow-up studies at different academic institutions in Israel and other parts of the world would be important and interesting extensions of the current research.

TABLE 1: *Majority and Minority Group Differences in Diversity Perceptions*

Factor	<u>Jews</u>		<u>Muslims</u>		<u>Christians</u>		Significant Differences F (df)
	M	SD	M	SD	M	SD	
4. Diversity Comfort	3.93	.82	3.56	.89	3.85	.91	***8.08 (2,611) J>M
5. Diversity Awareness	2.87	.92	3.14	.92	3.39	1.03	**7.65 (2,625) J<M ; J<C

Note. J= Jews (n=498); M= Muslims (n=92); C= Christians (n=42)

\*\*p<.01 \*\*\*p<.001

TABLE 2: *Gender Differences in Diversity Perceptions*

Factor	<u>Women</u>		<u>Men</u>		Significant Differences t (df)
	M	SD	M	SD	
1. Supportive Climate	3.64	.73	3.44	.67	** -3 (629)
2. Intergroup Tensions	2.55	.78	2.40	.71	* -2.12 (629)
5. Diversity Awareness	3.02	.95	2.73	.85	** -3.30 (611)

Note. Factor 1; Factor 2: Women (n=474); Men (n=157). Factor 5 Women (n=462); Men (n=151)

\*p<.05 \*\*p<.01

Table 3: *Disciplines of Study Differences in Diversity Perceptions*

Factor	<u>Economics</u>		<u>Information Technologies</u>		<u>Social Sciences</u>		<u>Social Behavioral</u>		<u>Human Services</u>		<u>MA programs</u>		<u>Health Care Systems management</u>		Significant Differences F (df)
	M	SD	M	SD	M	SD	M	SD	M	SD	M	SD	M	SD	
5. Diversity Awareness	2.58	.97	2.3	.91	3.07	.8	3.2	.8	3.14	.93	3.3	.8	3.06	.85	***9.18 (7,612) Sos>E Sos>IT HCS>IT MA>E MA>IT HS>E HS>IT SB>E SB>IT

Note. E= Economics (n=105); IT= Information Technologies (n=55); SOS= Social Sciences (n=180); SB= Behavioral (n=70); HS= Human Services (n=63); HSC= Health Care Systems (n=52)

\*\*\*p<.001

**Keywords:** *diversity management, academic institution, ethnic groups, gender, academic fields, diversity climate*

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## **ANALYSIS OF THE FINANCIAL RESULTS OF 38 CASES OF KIBBUTZ TURNAROUND BETWEEN THE YEARS 2002 – 2012**

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### **ABSTRACT**

This paper examine if the economic performance of directors who are members of a group of directors that share core values, knowledge, information and managerial experience are higher than the economic performance of directors who act alone.

To answer this question, the economic growth of 38 kibbutzim that was manage by the directors group was compared to the economic growth of other kibbutzim, during the period 2002 – 2012.

### **BACKGROUND**

In the mid-1980s, the kibbutzim experienced a serious multi-dimensional crisis - ideological, social, leadership, management, and financial. Most of the kibbutzim collapsed in financial, management and social terms. This situation required finding vital management and financial solutions for their continued existence. At that time, the external environment changed. The Israeli society moved from socialism to individualism, the government reduced the protection of domestic production and opened the market to competing import. This policy adversely affected the manufacturing sector in Israel, which the kibbutzim are a part of.

As a response to the changes in the external environment, since the mid-90s the kibbutzim, like cooperatives worldwide, have undergone structural changes to adjust themselves to an external environment characterized by the strengthening of the individualism and capitalism, increasing competition and globalization.

Since the 90s the kibbutz' management model had changed. Similar to the structural changes of the management model of many cooperatives in developed countries, it moved from direct to reprehensive democracy management, hired professional directors and managers. This is the background to the foundation of directors group, created in order to establish a professional standard for the management of the kibbutzim.

The directors group is normally composed of about 20 professional and experienced directors, carefully selected according to their personal qualities and their managerial capabilities. The group's members share core values and guiding principles for managing a kibbutz. Among the group members there are personal relationship and mutual support, knowledge and information transfer, Innovation, Entrepreneurship and Digital Ecosystems

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and managerial experience accumulated. The group meets regularly for leaning, discussing possible solutions to common problems, the development of economic growth strategies and models of strengthening rural community cohesion.

## METHOD

In order to evaluate the economic results of the directors, the average growth of accepted economic indices and financial ratios was used. The database was the annual audited accounting statements for the period 2002 – 2012.

Evaluation of economic and financial results was carried out by two methods:

1. "Before and after" – In order to study the contribution of the group's members over time, the average annual growth of the economic indices and financial ratios of the kibbutzim that was run by the group, was compared two years before the group begun managing a kibbutz to three years afterward .
2. Each calendar year, the average growth of the financial indices and financial ratios of the kibbutzim managed by the group were compared to two control groups:
  - I. Kibbutzim whose income turnover was in the range of the income of the kibbutzim managed by the group
  - II. All the kibbutzim that were not managed by the group.

## FINDINGS

From interviews with the group's members, it appears that they use a similar recovery strategy for the turnaround of the kibbutzim.

In the method "before and after", there was improvement in all the economic indicators and financial ratios, in the period in which the kibbutzim were managed by the group as compared to two years before.

The average growth of the economic indicators and of the financial ratios was higher in the kibbutzim that were run by the group's members, than the average growth of the kibbutzim in the two control groups.

**Keywords:** *turnaround strategy, recovery strategy, economic growth, manager's performance evaluation, economic performance, financial performance, cooperative, kibbutz.*

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# **THE NUMBER OF CONTROLS: A CUE FOR INNOVATIVENESS IN INTERACTIVE PRODUCTS**

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## **ABSTRACT**

## **INTRODUCTION**

As technology advances, it becomes easier to add more functionality to products (Thompson et al., 2005). Software and hardware solutions enable interactive products with fewer controls to be made more functional, while automation allows complex processes to be executed with the click of a button (Tannen, 2009). The challenge still facing manufacturers and designers of interactive products is in understanding what it is that consumers want. Human Computer Interaction (HCI) experts suggest consumers want few controls that are easy to use. In their estimation, designs with fewer controls help people achieve their goals efficiently and effectively because they are clear, easy to learn and operate, and also filter out the unnecessary features from those that are needed (Norman, 1988; Nielsen, 1999; Maeda, 2006). Designing interactive products that have few controls has proven to be a successful marketing strategy, led mainly by Apple's aesthetic revolution and the one-control interface of the Google search engine. Still, anecdotal evidence and a body of research suggests that multi-control designs sell at greater numbers and at higher prices (Norman, 1998; 2007; 2010).

## **PURPOSE**

This research is aimed at unravelling the apparent discrepancy between experts' advice to adhere to product designs with few controls and customer tendency to choose multi control product designs. In two consecutive studies, the first based on a qualitative methodology of interviews, and the second based on a quantitative methodology of measuring user preference, we observed and recorded how the number of controls influences user preference and perception of product quality.

## **METHODOLOGY**

Sixteen participants of varying age, gender and profession were interviewed in semi-structured interviews. In the first part of the interview, participants were presented with seven illustrations of product control panels. The illustrations were general and did not indicate how the products were to be used and for what purpose they were designed. The control panels differed in the number of

controls. This setup imitated a pre-use situation in which individuals evaluate a product before they have had a chance to try it out. During the second part of the interview, participants were asked how they normally judge products, and what product qualities influenced their final choice. In a subsequent study, 70 participants rated their preferences with regard to 26 illustrations of interactive products with varying numbers of controls. Control shapes were either round or rectangular, large or small (in all there were four types of controls).

## RESULTS

The qualitative study revealed that all participants, at least to some extent, relied on the number of controls as a cue for product quality. When the data was segmented by participant age group, an interesting trend was revealed. Participants 30 or older perceived fewer controls as an indication of greater ease of use, but with lower functionality. For this age group, each control represented one feature and thus they perceived fewer controls as offering fewer features. Participants younger than 30 also perceived fewer controls as an indication of greater ease of use. However, unlike those 30 and older, this age group assumed greater automation and thus judged products with fewer controls as more innovative and providing higher functionality. Both age groups perceived the presence of many controls as an indication of greater difficulty of use, but as offering more functionality.

In the quantitative study, participants were asked to use a Likert scale (containing a range between one and ten) in order to rate their preferences among illustrations of panels that presented different numbers of controls. The results revealed that the number of controls included in the panel was significantly and negatively correlated to the preference ratings of the product. The highest preference (with a scale rating higher than eight) was given to panels with three or four controls. The lowest preference (with a rating lower than four on the scale) was given to the panels with more than 42 controls. Panels with a single type of control were judged as easier to use than those with two to four types of controls. The presence of a greater variety of control shapes and sizes was judged as more difficult to use. Shape and size of the controls together with their number served as significant predictors of product quality perception.

## CONCLUSION

The studies reported in this research were conducted in order to unravel how the number of controls influences the perception and preference for interactive products. The contribution of this work lies within its analysis of how seemingly trivial design choices affect the evaluation process of consumers. Fewer controls in a control panel were perceived as providing greater ease of use when compared to

control panels with many controls. More controls were perceived as providing more features than products with fewer controls. These findings are in line with previous research (e.g. Thompson et al., 2005). Additionally, preference was higher for products that had fewer controls in comparison to those having many controls. However, different age groups related to the number of controls as a cue for product innovativeness. Young participants assumed greater automation and thus judged products with fewer controls as more innovative and providing higher functionality compared to older participants. Older participants perceived few controls as a cue for poor capability of the product as they did not relate to the possibility of automation. Manufacturers and designers may consider such factors when formulating branding strategies for interactive products.

**Keywords:** *few control designs, multi control designs, interactive products, age segmentation, pre-use situations, preference, innovation, consumer behaviour.*

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# **THE EFFECTS OF ETHNOCENTRISM AND COUNTRY OF ORIGIN FAMILIARITY IN CONSUMER PREFERENCE AND RECOGNITION OF INTERNATIONAL BRANDS**

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## **ABSTRACT**

In contemporary globalized markets a positive Country Image (CI) influence consumers' behaviour and purchase intentions being useful to promote domestic products worldwide. Through the promotion of these relationships it is possible to sell products and services that on their own would probably face more difficulties in the internationalization process (Kleppe, Iversen, & Stensaker, 2002). The country-of-origin (COO) effect depends, among other things, on the knowledge that the target market owns on that country, and calls into question why should small or unknown countries use a COO strategy to promote their products abroad? Considering that market globalization leverages the potential of COO in influencing consumer behaviour, it seems important to invest in information about it, since country-of-origin can be used as an indicator of product quality and acceptability. One possible way to conceptualize CI is as a knowledge structure that consumers hold in mind based on associations of uniqueness, favourability, strength and salience of a specific country (Kristensen, Gabrielsen, & Jaffe, 2014).

When a particular country image is unclear, ambiguous, or inexistent for a specific target, managers and politicians should make efforts to encourage the process of building a solid and multifaceted country image (Wang, Li, Barnes, & Ahn, 2012). Reversely, the quality perceptions and image of products and brands of a particular country can also stimulate and participate in the process of positioning and developing a CI (Wang et al., 2012). Taking into account the cultural, socio-economic, and structure differences in international markets the challenge consists in understanding which attributes and specific images the consumers in the selected markets form about the COO and how they answer to different marketing strategies in order to promote a country image message.

This paper is aimed at exploring the effects of ethnocentrism (Usunier & Cestre, 2007) in consumer preference of domestic versus foreign brands, and the effect of COO familiarity (Josiassen, Lukas, & Whitwell, 2008) in international products/brands recognition.

An exploratory study was carried out on a sample of 177 of Portuguese and US consumers, in order to explore the effects of familiarity and ethnocentrism in consumer preference of domestic versus foreign

product categories and brands. Additionally, the study had the purpose to identify which are the main categories of products/brands that foreign and domestic consumers associate to Portugal.

General results show that five product categories are more associated to Portugal by Portuguese consumers: olive oil (79.7%), cork and wine (78.0%), footwear (74.6%), and soccer (71.2%). Technology and Innovation are the least mentioned (4.2%). For US consumers, the most referred product categories for Portugal are soccer (53.9%), cork (19.2%), and footwear (15.9%).

Findings suggest that, consumers' familiarity with a specific country influences the recognition and the associations that consumers establish with the products/brands of that country and ethnocentrism appears to act as a barrier to entry of foreign products.

The topic under study is particularly relevant for a country as Portugal that is fighting against an economic downturn, through the investment and reinforcement on strategies that promote product exports and tourism sales. Portugal is a small dimension European country, with a high tourism potential, competing directly with important economies with strong CI and well-known global brands, such as Spain, France, and Italy. Taking into account the lack of awareness that persists in the global market about Portugal and its domestic brands, and the lack and consistency of studies on Portuguese CI and Portuguese products/brands, as far as we know, it seems relevant to analyse this question from both perspectives domestic and foreign consumers.

**Keywords:** *Country of origin, country image, domestic products/brands, country familiarity, ethnocentrism, international marketing*

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## **A MULTISTAKEHOLDER APPROACH TO SMART CITY ECOSYSTEM: UNIVERSITIES CONTRIBUTION**

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### **ABSTRACT**

Cities may be a great locus of smart innovation integrating various groups of stakeholders within the ecosystem. While a lot of research is devoted to triple helix models and include University into the key players contributing to the knowledge transfer within open innovation system, it seems that there is a gap in a wider understanding of the role of the Universities in terms of both positive and negative possible effects on the city ecosystem. A comparative analysis of Smart City ecosystem has been carried out through multiple case studies of University's involvement in this kind of projects in Russia and Italy. Results propose significant new insights useful to rethink the role of Universities and, at the same time, to highlight some newly arising opportunities in stakeholder management. The existent literature review as well as preliminary cross-country findings confirm the practical implication of the research and define further direction for the filed study.

### **CONTEXT ANALYSIS AND OBJECTIVE OF THE PAPER**

While the innovations arise from different types of organisations, the multistakeholder relationship brings us to the call for sustainable co-development. The recent trend of smart innovations within global city ecosystem is yet to be adjusted from the multistakeholder theory view. A strong innovation ecosystem has a leading role in fostering innovation within the so-called Smart City. Smart City is a city that aims at “connecting the physical infrastructure, the IT infrastructure, the social infrastructure, and the business infrastructure to leverage the collective intelligence of the city” (Hollands, 2008). In this context, the role of the various actors (firms, public governments, universities, research centres) within the city ecosystem is crucial in the development of new services and products with the aim to satisfy citizens' needs. Among all the stakeholders, Universities cover an important role and can contribute in different ways in the development of Smart City project. This paper investigates the mutually advantageous value-driven innovations brought by Universities as a key actor in the development of social innovation exploiting Smart City opportunities. It is becoming increasingly recognized that the variety of forms can create shared value emerging from a range of organizational arrangements



including established corporations, spin-offs from corporations and universities, family firms, social movements, and social entrepreneurial ventures (Del Giudice et al., 2013; Autio *et al.*, 2014).

This represents an important contribution because previous studies on Smart Cities focused on different perspective of analysis, such as the technological innovation, the whole innovation ecosystem and/or the single city (Kourtiti and Nijkamp, 2012).

## **SUMMARY OF PREVIOUS WORK IN THIS AREA AND EXTANT GAPS**

Literature on innovation ecosystem suggests that, within this ecosystem, several actors are involved in social innovation processes, and many studies are aimed at analyzing their roles (Ferraris and Grieco, 2015). Social innovation requires a variety of actors working in concert and innovation processes are interactive and they can be better studied intellectually by specifying the actors and their links (Cooke *et al.*, 1997). A famous landmark in this field of study is the Triple Helix Model developed by Etzkowitz and Leydesdorff (2000) in order to explain how innovation emerges from the interaction of different parties by analyzing the existing dynamics between three helices: state, academia, and industry. In a knowledge society, the Triple Helix thesis is that the potential for innovation and economic development lies in a more prominent role of the university and in the hybridization of elements from universities, industries and the government to generate new institutional and social formats for the production, transfer and application of knowledge (Ranga and Etzkowitz, 2013). Following this stream of literature, University can play an enhanced role in innovation in increasingly knowledge-based societies, acting as technology and knowledge transfer favoring the economic development and acting as an intermediary between the other components of the ecosystem in multi- and inter-disciplinary ways.

In this context, Smart City projects typically involve alliance portfolios involving several partners, both public and private, which develop uncertain technologies, services or business models with the final aim at satisfying citizens needs. However, none of the studies about Smart Cities clearly address the role of the universities even if in the reality they are involved.

## **RESEARCH DESIGN: METHOD(S) EMPLOYED**

The "Smart City" context is still emerging and the work of defining and conceptualizing it is in progress. Despite these difficulties in defining this fuzzy concept, our research design focus on the evidence that different stakeholders collaborate in the city's innovation ecosystem in order to exploit Smart City opportunities. It is widely accepted that university combines the three missions: education, research and social, while recent studies outline that the fourth strategic mission, reflected in the economic effects arising from the location and operation of the campus in the city (Belyaeva, 2015). At

the same time, the university can act both as an obvious economic actor (the employer, the owner of the property, the taxpayer, etc.), as well as a generator of indirect, "spontaneous" economic and innovative effects. The directly achieved effects may include: 1) Knowledge transfer to/from local businesses, 2) Generate a new source of income (university as an employer), 3) Investments in real estate: the university as an investor, 4) Incubation of start-ups, 5) Provision of specialized knowledge-intensive services, 6) Co-creation of innovative scientific and educational clusters, commercialization of research. In the same time the multistakeholder approach to the smart ecosystem may bring up the following indirect effects: 1) Strengthening of local suppliers (University as a major buyer), 2) Stimulating domestic and international demand for the domestic goods and services (students and university staff), 3) Creation of new businesses to meet the needs of the University, students and staff, 4) Related field companies extra stimulation.

The study followed an exploratory and qualitative methodology and consisted of 30 in-depth semi-structured interviews lasting 2 hours with both Smart City managers from ten large multinational and national corporations participating in Smart City initiatives and academics and professors personally involved in Smart City projects in Russia and Italy. The choice of the respondents was adjusted to approve the direct and indirect effect of developing the smart ecosystem in various organizational multistakeholder environments. The interviews gathered information related to the role and tasks of University within these projects. Also, primary and secondary sourced documents were content analyzed.

## **FINDINGS: WHAT ARE THE MAIN OUTCOMES OF THE RESEARCH?**

Our interviews showed how University may play an active role in Smart City projects. In fact, Universities are an important part of the innovation hub/ecosystem providing many complementarity assets to the projects. Moreover, in line with the innovation ecosystem literature, Universities may bring scientific and technological knowledge within the project with specialized competencies, hard and soft skills (Ranga and Etzkowitz, 2013). Also Universities are becoming social agents stimulating sustainability involvement of other key-organisations. With this regard, in particular private managers highlight the important role of Universities as knowledge intermediaries between private and public partners. In fact, they are crucial in the management of knowledge flows between different partners allowing cross fertilization of ideas within hybrid partnership. Furthermore, private managers clearly stated that University may have an important role in the management of Intellectual Property Rights (IPR) balancing open and close approach of different public and private partners involved in the projects.

Moreover many interviews highlighted the role of the students' engagement in order to: a) individuate new citizens needs, b) add an important source of knowledge in the co-development innovation process, c) favor the start-up creation or universities spinoff, and d) create "contests" of ideas, e) follow socially responsible strategy of Smart City.

From the interviews, it emerged that University may help in accessing to national or European funds both in Russia and Italy. They may also act as network facilitator/coordinator between different cities building knowledge pooling, knowledge repositories and experiences. Finally, Universities may provide human and physical resource (researcher/professors, facilities and laboratories) and education training, dissemination of culture and concepts, masters, seminars, lectures in terms of specially tailored education programmes and as a role-organization itself (Bresciani et al., 2012). The concept of a smart city is shaping the impact on the sustainability and liveability of a city, so the practical implication of the suggested research framework is to suggest practical guidelines for Universities and other stakeholders to better support managerial practices in smart city organizations. The research has such limitations as limited data, but attempts to set a novel understanding of the mutually adjusting smart city system.

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## **GHG AND CATTLE FARMING: A MULTILEVEL FIXED MODEL FOR CO-ASSESSING ECO-IMPACTS AND PERFORMANCES**

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### **ABSTRACT**

In the last decades, the offer of animal products will also have to increase especially in developing countries due to the aim to meet the predicted growth in world population and increasing food demand and needs (Cerri et al., 2016). The activities of the livestock sector impacts on climate change with several emissions in particular, Methane (44%), Carbon dioxide (27%) and Nitrous oxide (29%). Cattle emits the highest, about 65 % of the livestock production emissions; indeed feed processing and production and enteric fermentation from ruminants are the two major sources of emissions, contributing 45 % and 39 % of total emissions respectively. On product-basis, milk from cows and beef are in charge to emit the most emissions, contributing 20% and 41% of the sector's total greenhouse gas (GHG) outputs respectively (Sarkwa et al., 2016). Because of these significant and serious issues, the beef cattle industry is under increasing pressure to reduce production or implement technological changes (Ruviaro et al. 2015). Cattle-farming for dairy and beef production is one of the main most important agricultural activities in Italy. The objective of this study was to co-assess the environmental impacts and economic performances of Italian cattle farming systems based on farm data. There are few studies regarding the GHG emissions associated with the cattle production and economic performances.

### **INTRODUCTION**

Efforts to assess the environmental performances of beef production systems often culminate in mitigation strategies without factoring in farm economics (Veysset et al., 2014). Reducing GHG deriving from cattle farming can occur by choosing to rear animals with an improved genetically based performance: producing milk with higher protein content and at the same time reduced fat content emits less GHG into the environment (Podkówka et al., 2015). Furthermore, results demonstrate that the main element contributing to reduce emissions is the high productivity, that is a comprehensible outcome as the carbon footprint is related to the unit of product. The GHG production increases in absolute terms with the increase of the production amount, but since the reference unit is compared to the product amount, higher is the production efficiency, more you reduce the impacts, since the gases produced are distributed in a greater amount of product (Podkówka et al., 2015; Italian Ministry of Agriculture, Food and Forestry, 2010). The choice of complementarities between strategies in grassland-Innovation, Entrepreneurship and Digital Ecosystems

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based systems and adequate feeding strategies aimed to mitigate GHG emissions may result in better environmental advantages (Morel et al., 2016). Finally, it can be highlighted it is crucial to develop strategies to balance the increasing productivity with the environmental sustainability of cattle production (Ogino et al., 2015).

## METHODOLOGY

The analyzed sector by the present study belongs to 0141 'Raising of dairy cattle' of the Statistical classification of economic activities in the European Community, abbreviated as NACE (Nomenclature statistique des Activités économiques dans la Communauté Européenne). The study deployed quantitative and qualitative approach in the data analysis. Identification of research field and initial data collection preceded the investigation phase. Data collection derives from AIDA Bureau van Dijk International Database containing comprehensive information on companies, with up to five years of history, for individual countries, regions and the world. The AIDA database let out data from 183 cattle farms belonging to the 17 Italian regions on 20 total regions. Then, results seems be the most representative in the sector. Data concerned the following indicators: Revenues from sales and services, Number of employees, Profit (loss), Total assets, Research and development Expenses, Land and buildings, Total shareholder's funds. The profitability indicators are referred to 2014 year. The multilevel mixed effects generalized linear models were carried out for evaluating and assessing how the geographical location affects on gross profit, examining which variables at the regional level are significant predictors. Furthermore, the model investigates the role of the expenses for Research and Development Area of the cattle farms; the R&D sector in a farm can be crucial in defining integrated and complementary strategies for reducing GHG emissions. At regional level, mainly the number of employees and total assets of last year play a significant role in the gross profit forecast, but their relative weight differs across the regions. Even though most of the variance is present at farm level, the existence of significant variance at regional level, highlights the important regional role in gross profit distribution.

## CONCLUSIONS

The majority of mitigation actions implies in a more efficient use of resources along the whole production chain, which can only have a positive effect for farmers also in terms of reduction of the production costs. The adoption of techniques and more efficient practices is the key to the reduction of the emissions of the agro-zootechnical productions. A better management of health and animal welfare, for example, can reduce unproductive shares of the herd, which has a direct impact on the reduction of impacts, since these refer to the product. The agricultural practices that tend to the preservation of soil

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fertility, increasing the organic matter content, are then able to sequester atmospheric carbon and reduce emissions.

**Keywords:** GHG, cattle farming, gross profit, environmental and economic performance, multilevel model, log-linear regression

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# **CONSUMER ETHNOCENTRISM - INTENSIONS VERSUS DECISIONS. EXPERIMENTAL EVALUATION WITH VICKREY'S AUCTION OF CONSUMER ETHNOCENTRISM ON THE EXAMPLE OF GREEN APPLES OF POLISH AND ITALIAN ORIGIN**

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## **ABSTRACT**

Previous studies of consumer ethnocentrism focused primarily on the analysis of the level and determinants of declared ethnocentrism and its influence on buying intentions of products of domestic and foreign origin. A commonly used method is a CETSCALE survey. There is however a rising amount of experimental studies of consumer ethnocentrism.

The object of the study is a comparative analysis of the declared and behavioral attitudes of consumers in relation to food products of domestic and foreign origin (green apples: Polish vs. Italian). The study combines three research areas:

- a. Valuation of goods by consumers and factors influencing the valuation (economic, social and individual factors concerning personal situation, attitudes, opinions),
- b. The phenomenon of the country of origin effect, ie. the impact of the perceived country of origin on product assessment by consumers,
- c. Declared and behavioral consumer ethnocentrism, ie. consumer preferences for products perceived as coming from the home country.

The aim of the study was to verify the following hypotheses:

- H1: Perceived country of origin affects the valuation of products, differentiating between behavioral purchasing preferences.
- H2: Respondents with a higher level of declared consumer ethnocentrism give higher valuation of products of domestic origin (WTP).
- H3: Declarative level of consumer ethnocentrism (survey: CETSCALE) is higher than the behavioral level of ethnocentrism (Vickrey auction).

The study was conducted using both survey and experimental methods. Declared preferences of consumers and various factors which may influence them were verified with use of a complex survey including CETSCALE. Consumers also took part in a Vickrey auction to determine their willingness to

pay for domestic (Polish) and foreign (Italian) products - green apples. The study was conducted on a group of 244 students of University of Warsaw and included:

- research a "blind test" on a group of 40 people (aim: test of the perceived homogeneity of Polish and Italian green apples),
- pilot study on a group of 33 people (aim: methodology verification),
- main research on a group of 171 students (3 auction schemes with 57 participants in each).

**Keywords:** *consumer ethnocentrism, country-of origin effect, CETSCALE, willingness to pay, experimental method, Vickrey's auction, food, apples, behavioral consumer ethnocentrism*



## LOOK WHO'S TALKING: BANKING CRISIS, BAIL-IN AND MASS-MEDIA

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### ABSTRACT

This paper intends to verify two aspects of the movement of news related to the introduction of bail-in and the story of Banca Etruria. First through the methodology of text analysis we were analyzed quantitatively the significance of the news published between November 2015 - March 2016 extracted through the Factiva database, and the qualitative related to their semantic analysis. Alongside the traditional media, it was then considered the dissemination of news via the platform Twitter. Using social network analysis, were first highlighted the central actors in the propagation of news, selected considering the hashtag #bancaetruria and #bailin for the period February 16, 2016 - March 16, 2016, then it was investigated the semantic aspect.

### PURPOSE

How circulate the news? Who are the key players in the dissemination of new information? What is the relationship between the degree of circulation of news and influence on financial markets?

The existing studies highlight the impact of media on financial markets analyzed in term of stock price, trading volumes and volatility (Shiller, 2000).

A recent strand of literature (Miller and Skinner, 2015; Leuz and Wysocki, 2016) considers the tools of Web 2.0 as social media (Facebook, Twitter, Linkedin), rss feed and microblogging platforms, beside the traditional channels of dissemination of informations (f.i. newspapers, television, radio). These channels allow users an active participation to mechanism of production and circulation of news, according to the word of mouth mechanism. Using these tools, the individuals can share news and express opinions and comments: for this reason, they represent a new interesting field of studies about both the circulation of financial news and the individuals' financial behaviours.

This paper studies the relationship between type of information sources and their ability to influence public opinion. The aim of this study is to identify the key players in the dissemination of financial news.

To this end, we analyze the news about the instrument of bail-in and the case of Banca Etruria, that represent an interesting case of default of an Italian bank. These news are disseminated on Twitter in the period between 16<sup>th</sup> February 2016 and 16<sup>th</sup> March 2016. Selecting the tweets respectively with

hashtag #bailin and #bancaetruria, we use a social network analysis in order to identify the key players in the circulation and dissemination of news on the topics.

## METHODOLOGY

To study the relationship between nature and capacity of influence of information sources we adopted the methodology of social network analysis (Mitchell 1969; Wasserman, Faust 1994). The data is represented by all converging towards the tweet hashtag # bailin and #bancaetruria, collected from 9:30 am of the day February 16, 2016 at 12:00 of the day March 16, 2016. Although the period has been selected at random, it is made particularly interesting by the events related to the intensification of the story of Banca Etruria resulting from the thrust of consumer associations, who also moved in the direction to put more attention on bail-in institution. According to the hashtag #bancaetruria, it was detected 1578 users that generated 3452 tweets and retweet 1963, similarly for #bailin register 901 users that have produced 1,951 tweets and 950 retweets. It 's related to both the retweet based on hashtags, you can define the network of interactions among all users. The analysis of the nature of Twitter users is based on the simple distinction between mass media, blogs and individuals. The measurement of a user's centrality in the network, considered an indicator of its impact, instead uses the concept of "betweenness" of individual actors. The betweenness of a generic actor (i) is given by the sum of all partial "betweenness" calculated for each pair of vertices gjk:

$$Betweenness (n_i) = \sum_{j < k} g_{jk}(n_i) / g_{jk}$$

The idea at the basis of this measure is that the impact that is able to exercise a generic actor is linked to the number of times in which the same is located in the shortest path between two other actors. In other words, this measure is the expression of a user's ability to be a relational/informational bridge. The significance of differences in the categories was then tested through ANOVA statistical test.

## FINDINGS

Based on the analysis performed, Figures 1 and 2 show the network of interaction between the formats users based on products to retweet tweets containing the hashtag #bailin and #bancaetruria respectively. The observation of the clouds generated by the selection of retweet according to the two hashtag used for the research confirms first and foremost as the theme of Banca Etruria is particularly hot compared to the bail-in. It also appears as a central position in the network is covered in case of #bancaetruria from traditional news websites to generalist nature (eg. @larepubblica, @ilcorrieredellasera, @ilmessaggero, Rainews24 @, @ Tgcom24) and those of specialized information (eg . @milanofinanza, @ ilsole24ore), followed by general users and the financial blog (eg.

@adviseonly). In the case of the issue of #bailin, the most central users are essentially of a financial blog while, in a subordinate position, there are some traditional information websites of generalist and specialized nature. Finally lie general users. These results are also confirmed by the analysis of betweenness average (Table 1) of the three groups of identified users, both for the hashtag #bancaetruria, both for the hashtag #bailin.

	#bancaetruria			#bailin		
	N	Betweenness Media	Dev St	N	Betweenness Media	Dev St
Media	105	0.4507	0.4760	87	0.2408	0.5831
Financial Blogs	216	0.1001	0.2028	305	0.3712	0.3915
General Users	1257	0.2713	0.2937	509	0.0812	0.1719

Table 1. Analysis on the betweenness retweet containing hashtags #bancaetruria and #bailin

The statistical significance of differences between groups is also confirmed by the ANOVA (Table 2).

	#bancaetruria					#bailin				
	Sum of Squares	df	Mean Square	F	Sign	Sum of Squares	df	Mean Square	F	Sign
Between Group	545.59	2	272.795	13.630	.000	112.47	2	56.235	18.315	.000
Within Group	1020.72	51	20.0141			82.90	27	3.0.70		
Total	1566.31	53				195.37	29			

Table 2. ANOVA - Values of significance in relation to retweet containing hashtags #bancaetruria and #bailin

The story of the bank in crisis involving multiple investors is confirmed to be a hot topic from the media point of view for its implications not only strictly financial, but also for those social and political. The cloud of the tweet tag (Figures 3 and 4) confirm the results of the analysis of the recurrence of words turning point for traditional media: the newsworthiness of events considered in the analysis is given mainly by the involvement of a prominent political figure and a high number of savers.

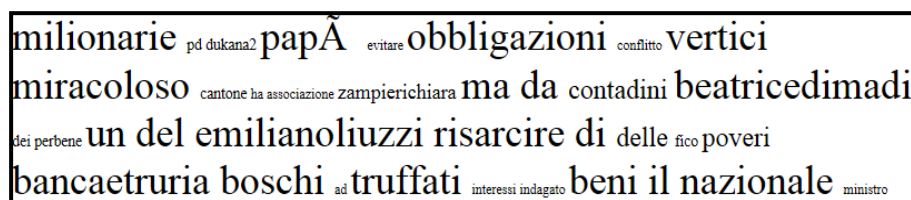


Figure 3. Tag cloud on the occasion of the words for tweets containing the hashtag #bancaetruria

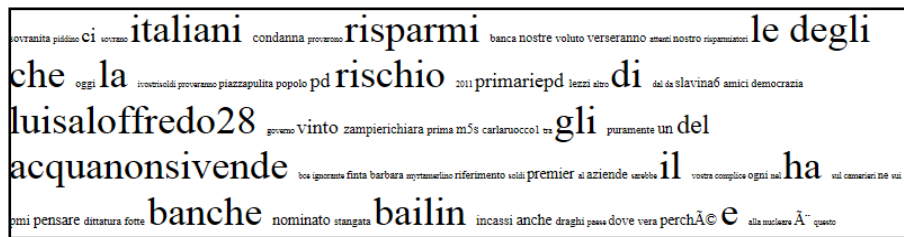


Figure 4. Tag cloud on the occasion of the words for tweets containing the hashtag #bailin

## RESEARCH IMPLICATIONS

The recent banking crisis on the Italian market have revealed a variety of weaknesses that have given even pushing some regulatory intervention, aimed at protecting the majority of savers and with it the stability of the entire banking and financial system. Specifically, the outbreak of the scandal arising from the affair Banca Etruria and the almost simultaneous issue of the decree Save-banks containing the introduction of the instrument of the bail-in, were topics to which the media have reserved considerable space under the impact not only strictly economic-financial, but also political and social that they are producing. In these two case studies, how the news were disseminated? Who are the key players in the circulation of the information? This paper has set out to check the movement of financial news related to the introduction of bail-in and the banks in crisis, with particular regard for Banca Etruria, on the Twitter platform for the period February 16, 2016 - March 16, 2016. The media in practice it seems to assume a popular attitude with a substantial neutrality of the information disseminated regarding the institution of bail-in while you pose in a rather harsh when it comes to events that involve the banks. For the introduction of bail-in media only play the soil of information brokers, while in the case concerning the story of Banca Etruria they take an active role, contributing to the construction of public opinion. From the perspective of financial intermediaries, these media under check, commit their energies defending against these attacks rather than using the media to communicate properly with investors. Correctness and clarity in communication is not obligatory, as well as use of traditional media channels and not by the banking institutions may have positive effects on knowledge and awareness of investors, more than any regulatory action intended to protect them. The problem of poor financial education of savers and opaque disclosure by banks themselves have sparked recent events of which Banca Etruria was only the leader. Events that should not be confused also with bail-in, but rather with the fraudulent placement of risky financial products and not suitable for all customer segments. In the specific case of the bail-in fact, it should also be made the effort to properly communicate what, when and for whom you activate, and get the message across that do not implement the procedure, can have worse consequences with heavy repercussions on the community and on 'entire economic and financial system, to implement it.

The future prospects of this work will concern the investigation of the existence of a relationship between the performance of financial markets, the circulation of news on selected topics and the degree of attention / awareness of individuals, investigated through the volume of Google searches .

**Keywords:** *Bail-in, Banca Etruria, Media Coverage, Media Sentiment, Text Analysis, Social Network Analysis.*

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## MACROECONOMY, HEALTH FINANCING AND OUT OF POCKET PAYMENTS.

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### ABSTRACT

The high share of out of pocket (OOP) payments to total health expenditure, for countries such as Greece, Cyprus, Portugal and Spain, has always been a major issue of their health care systems. In this paper, we examine the impact of macroeconomy, public and private health insurance financing (PHI) on OOP spending. Using fixed/random effects and dynamic panel data methodology to a dataset of 26 E.U. and OECD countries for a period lasting from 1995 to 2013, we find that public and PHI financing have a significant countervailing effect on OOP spending. Moreover, we show that unemployment rate has a significant positive impact on OOP expenditures. Our findings are robust since we implemented different changes in specifications and samples in our models. We argue that policy-makers should give serious consideration to PHI institution since our results indicate that it has an inverse effect on OOP spending. Further, countries have to provide financial risk protection to their citizens against OOP payments, rather than only attending health budgetary retrenchments in order to reduce public deficits.

**Keywords:** *OOP payments, macroeconomy, public health financing, PHI, panel data analysis.*

## **HOW A GLOBAL VISION AND INNOVATIVE PRODUCT LEAD TO INTERNATIONALIZATION OF AN IT/E-COMMERCE HYBRID**

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### **ABSTRACT**

This paper aims to present a single case study of the internationalization of a Polish-based IT/e-commerce hybrid. The study explores the motives and barriers to internationalization of said firm. Additionally, it examines foreign market entry modes and determinants influencing the choice of foreign markets. The issues of international orientation of the founder and psychic distance perception are also discussed. The study is based on an in-depth interview and secondary sources, which indicate how a combination of an innovative product, a global vision of the founder, and international experience acquired by the IT part of the company all influence the global approach of its e-commerce venture.

### **INTRODUCTION**

Since the development of ICT revolutionized the internationalization and born global firms have emerged, it seemed as if the internationalization pattern described by Johanson and Vahlne (1977), as well as Johanson and Wiedersheim-Paul (1975), in the Uppsala model were no longer valid. Nevertheless, researchers have tested the applicability of the U-model on the internationalization of Internet-related companies, finding that some model assumptions remain relevant (Kim, 2003; Forsgren and Hagström, 2007).

The assumption from the U-model that remains relevant in the internationalization of Polish IT/e-commerce hybrid is the acquisition of experience and knowledge before entering foreign markets. Learning about a market before entering is as important as the global experience of employees and the vision of its leader. However, the necessity of resource commitment abroad does not seem to be specifically perceived by executives, while psychic distance (perceived differences between domestic and foreign markets) may be reduced by the relationship within the network (Johanson and Vahlne, 2009).

### **PATTERN-DOUBTS OF INTERNATIONALIZATION OF E-COMMERCE FIRMS**

Up to now, three researchers confronted the process of internationalisation of Internet-related firms with the process described in the Uppsala model, i.e. Kim (2003) and Forsgren and Hagström (2007).

Kim (2003) indicated that the stage theory can be applied to online companies, but there are limitations in the case of service e-companies. Namely, selling intangible goods makes the internationalization process more rapid in comparison to e-commerce manufacturing firms. Forsgren and Hagström (2007) also noticed the extraordinary pace of internationalization of investigated Internet-related firms, as well as the lack of experiential knowledge behaviour. They suggest, however, that managerial implications of the U-model may still be relevant.

## RESEARCH DESIGN

The focus of the study is the applied strategy of internationalization of company X and the influencing factors. It also reveals the learning mechanism driving the internationalization process of the researched company, albeit the process *per se* is not described here. To fulfil the research aim, a qualitative study in a form of an in-depth interview was conducted. The research questions have been formulated as follow:

- What kind of driving forces are behind the internationalization of the e-commerce venture of company X?
- How can the foreign expansion be characterized, regarding the nature of markets, the sequence of entering such markets, and forms of expansion?

The interviewee was a marketing director of a company X. Case selection is based on purposeful sampling: the criterion of choice of the company X was its presence on the most technologically advanced markets and offering digital products.

## GLOBAL APPROACH OF THE IT/E-COMMERCE HYBRID: A CASE STUDY

Company X is a SME established in 2005 as an IT firm, and in 2011 launched an e-commerce venture under the brand Y. The company delivers a wide range of IT infrastructure services, such as data center and cloud computing, all in line the highest international standards and regulations. While the X brand is dedicated to business customers, the Y brand serves also individual clients.

At first glance, company X is a typical born global: it operates in the IT sector, it has been internationalized within three years of establishment, and its sales in foreign markets exceed 30% of total turnover. The main role is played by its founder and his global vision, and the psychic distance seems to be not perceived. However, when it comes to the foreign market entry, it is executed according to a delineated strategy, including stages and excluding simultaneous entry to more than one market. The executives pay great attention to acquiring maximum knowledge about a market before entering it.



Knowledge about foreign markets is distilled from the international experience of managers and external sources, such as local suppliers and sales representatives that introduce the X company in the market through the “back door”. In some markets, external representatives establish cooperation with X company, later becoming its representatives. Strongly-positioned business partners also advise on ways for X firm to interact with customers in challenging markets.

The X company omits emerging markets and targets only the most developed ones. The management board wants to avoid facing the technological or cultural barriers of developing markets. Moreover, less advanced technological level of development and trust issues in the domestic market have forced the company to enter foreign markets. The company is focused on offering innovative products in the German, British, French, Canadian or Japanese markets. However, it serves specific inquiries from developing markets.

The international experience acquired from the IT sector enabled the global scale of operation of the e-commerce venture just after its launch. Nevertheless the global vocation of its product seems to be as important as its international experience. The product offering under the Y brand is fully digital, hence immediately distributed and accessed by the customers, and is universal (required in any kind of IT/e-commerce activity), neutral (independent of the ICT suppliers) and flexible (fully customizable). Development of a product which is standardized yet easy to adjust at the same time is very time consuming and capital-intensive, but both criteria are crucial for a product to meet global needs.

## FINDINGS AND CONCLUSIONS

The acceleration of the internationalization processes of small IT and e-commerce firms is indisputable (Jones, 1999), alongside their revolutionary and incremental character in some cases (Foscht *et al.*, 2006). As presented above, gradual internationalization driven by learning mechanism and experiential knowledge can be found even in cases of companies offering the most innovative, digital products. The most significant dissimilarity in reference to the Uppsala model of internationalization lies in the lack of the evolution of foreign market entry forms. The incremental character of the internationalization is revealed in the internal growth of the company and product development that altogether enable the global expansion. Also the lack of psychic distance considerably distinguishes the internationalization of the hybrid X. It results from the strong confidence in the global competitiveness of its offered products, as well as the global vision of the founder. The management board of the company X does not vary its activity in domestic and foreign markets. The strategy has a global dimension, just as their mindset.

## ACKNOWLEDGEMENT

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**Keywords:** *internationalization, e-commerce, IT firms, born global, market entry strategies*

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## CYPRUS DISEASE

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### ABSTRACT

This study aims to develop a “Cyprus Disease Framework”, which is based on theories, literature and the previous experiences of the other countries. The study is divided to three main sections:

The first section explores the phenomenon known as “Dutch Disease” by utilizing the model of Sachs and Warner (1995) as a base for understanding potential theories surrounding “Dutch Disease” and “Natural Resource Curse”. This section emphasises on the main effects of “Dutch Disease” based on the Classic Model of Corden (1982); “Resource movement effect”, “Spending effect” and Gylfason (2001) “Exchange Rate Variability”, and then it clarifies the variable effects of “Dutch Disease” on sustaining economic growth such as “Human Capital”, “Country Size”, and “Depth Overhang”. In the other hand this section reviews different theories specially the reasons behind the “Natural Curse” by Coutinho (2001) including; “Dutch Disease”, Deterioration of Government and Conflict, Over Investment in Physical Capital, Under Investment in Human Capital, Undeveloped Financial Markets, and Poor Macroeconomic Management.

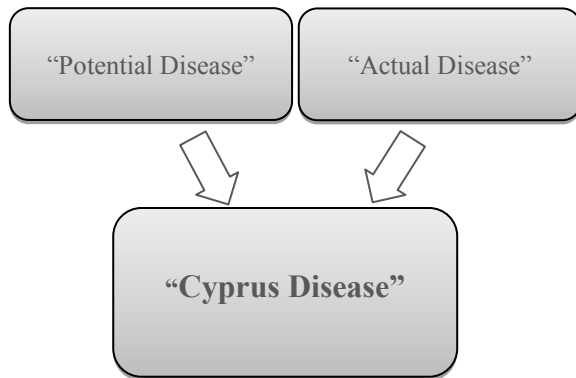
This section also identifies the previous failure experiences of countries, who have been cursed after discovering the “Natural resources”, highlighting the pitfalls that should be avoided. It also explains why “Dutch Disease” (Natural Curse), cannot be used as a “blue print” for Cyprus. According to the studies and analysis of the first section, “Potential Cyprus Disease Framework” is developed.

The second section explains the discovery of natural gas in Cyprus and its relation to the Cyprus “National Wealth”. This section analysis Cyprus macro-economy after its dependency and explains that the failure of economy stemmed from the growth performance that for many years had masked structural weaknesses and the need for drastic changes and adjustment to the new economic environment (Orphanides and Syrichas, 2012).

This section identifies Cyprus problems causing the crisis, mentioning that Cyprus has benefited from number of external factors, such as the war in Lebanon, the higher incomes of Arab countries in the 1980s and mass tourism but, there seems to be no clear view about the growth model to properly adjust to today’s circumstances and a lot of suggestions only serve to make the absence of clear targets more strongly felt. This is accompanied, by a long time depression of Cyprus economy and consistent efforts to distinguish the problems to explore possible remedies. (Cleridesa and Stephanoub, 2009). But are there remedies for all the problems? The most obvious example for this case is the ongoing

Turkish threat, so even Cyprus EU membership could be an appropriate context which could offer protection against the ongoing Turkish threat and the pressure of Cyprus's political problem, but unfortunately, the economic aspects were essentially disregarded (Cleridesa and Stephanoub, 2009). In the other hand identified failures of the Cyprus economy to properly adjust to the new environment of the EU, after the international financial crisis of 2008, which hit several countries, made the situation worst and these adverse developments caused large structural problems and weaknesses of the economy (Cleridesa and Stephanoub, 2009). The second section guides the literature to identify "Cyprus Actual Disease".

Finally, the third section utilizes the main categories of Cyprus problems "Cyprus Actual Disease" and "Cyprus Potential Disease" as a guidance for "Cyprus Disease Framework"



**Keywords:** *"Natural Curse", Model of Corden (1982), Model of Sachs and Warner (1995), "Dutch Disease", Weak Macroeconomic Management, "Cyprus Disease".*

# **VALUATION PROCESSES IN RENEWABLE ENERGY INVESTMENTS: A SURVEY AMONG INVESTMENT PROFESSIONALS**

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## **ABSTRACT**

## **INTRODUCTION**

Applied asset pricing techniques and valuation processes for non-traded assets remain under-researched and poorly understood in contrast to the research on public traded companies (Petersen et al., 2006, Driessen et al., 2012, Ping et al., 2013). Green investments in renewable energy (RE) production – typically a non-traded asset – receives currently much attention by the investment community, mostly by utilities and institutional investors (Wassmann et al., 2016) due to the anticipated favourable risk-return profile (Warren, 2014). However, there are many investors which were forced to accept impairment losses in some of their RE investments (Shah, 2011, Catoire and Coneybeare, 2015). What are the reason for those asset impairments? A reason could be that the applied valuation methodologies – developed by researching public traded companies (Damodaran, 2013) – do not appropriately consider all specific characteristics of non-traded assets and RE. Other possible deficiencies include the lack of adequate input data (Petersen et al., 2006) and lack of recognition of sector specific characteristics (Brandt, 2002), unsystematic risks (Damodaran, 2012) and the correlation between project risk and within-firm and/or market risk (Ehrhardt and Brigham, 2016), and the subjectivity of many applied approaches (Cotner and Fletcher, 2000).

## **PURPOSE**

The aim of this paper is to study the applied methodologies in valuation processes of non-traded assets among investment professionals in Switzerland and Germany, based on the example of RE investments. The research objectives appear to be a challenging project due to the restricted data access.

The research is expected to make a valuable contribution to the asset pricing research for non-traded assets, specifically for RE investments. First of all, the research will demonstrate which theoretical concepts (Hürlimann and Bengoa, 2016) are applied in RE investment practice in order that practitioners can learn how firms currently operate, assess risk and apply asset pricing techniques. The development of a conceptual model to estimate project specific return rates, as proposed by Finance

Theory (Weston, 1973, Fuller and Kerr, 1981, Titman and Martin, 2008, Ehrhardt and Brigham, 2016) specifically for RE investments will be a second valuable contribution. It will contribute to the field of research and to managerial practice by providing a comprehensive, systematic and more objective approach to estimate return rates in RE investments, considering influences of previous investments, portfolio effects and cognitive aspects. Finally, the research will contribute to practice by offering valuable insights about the organisational and cultural differences in risk perception and risk behaviours of Swiss and German RE investors.

## METHODOLOGY

The researched population includes financial experts, financial managers and other decision makers in Switzerland and Germany. Those professionals hold a senior position within their organisations which invest in RE projects in the multimillion EUR scale, including power utilities, independent power producers, specialised fund management companies, project developers, consulting firms and project financing institutes. In Switzerland, there is no need to create a sample since the majority of the concerned population is known to the research team. In contrast, a study of the whole concerned German population would be impracticable, time consuming and overrun the research budget. Since an accurate probability determination of the selected participants is not possible, “non-probability sampling” (Saunders et al., 2009:213) is applied. The sample is built by consulting participant lists of several major RE conferences in Germany and social media platforms, complemented with snowball techniques based on the survey participants’ network.

A mixed method approach (Saunders et al., 2009) is applied for data collection in order to gather data from a rich set of available source, including interviews, a survey and focus groups. In the ongoing research, the first two research phases have been performed up to now.

In the first phase, exploratory semi-structured interviews are conducted, including both open- and semi-close-ended questions, identifying questions to be asked in subsequent data collection phases. Face-to face interviews were performed with four financial experts of the defined population, allowing the exploration of key topics which might have not being considered as relevant from the beginning (Robson, 2002) in order to gather richer qualitative empirical data. Those audio recorded data are analysed with content analysis, a bundle of systematic text analysis techniques, to discover key words and themes, their frequency of occurrences, theme treatment and presentation and linkage to outside variables, such as work experience, role in organization, gender, and cultural background (Robson, 2002, Elo and Kyngäs, 2008). For an efficient data analysis, the qualitative data analysis software NVivo is used.

A first questionnaire has been created based on the findings identified in the first phase, including questions asked in the famous studies of Graham and Harvey (2001) and Brounen et al. (2004) since their questions and applied answer scales have proved their validity. However, each of the posed questions have been adjusted and/or extended to match them to the research field. This survey was piloted with additional five experts in the research field and three scholars who provided valuable feedback and led to clarifications, simplification of questions and inclusion of additional brief explanations for certain questions.

In the subsequent second research phase, quantitative data collection with the final online survey is performed to verify the first findings and to find new statistical significant results. The survey is composed of five groups of questions. Firstly, general questions about RE investments were asked, including invested countries, technologies and entry phase in investment. Second group poses questions about risk, including the relevance of risk components in RE investments, materialisation and mitigation of risk. Thirdly, questions about how risk, return and its trade-off is understood within the organisations are asked. Finally, capital budgeting techniques are investigated followed by questions about estimating cost of capital before concluding the survey with demographic and control questions. The collected survey data are analysed with multivariate analysis to evaluate several variables at a time by applying the software IBM SPSS Statistics. The purpose of this analysis is to assess the significance of the empirical data about the applied valuation methodologies, risk factors and their priorities, and other dependent variables in relation to return rates, applying appropriate quantitative statistical tests, such as the multivariate analysis of variance (MANOVA).

The exploratory interviews and the survey piloting have been performed between April and September 2015 (1. phase), and a subsequent online survey between December, 2015 and March, 2016 (2. phase).

## FINDINGS

From the exploratory phase, there are indications that previous investments and existing portfolios have an influence on future RE investment decisions: i) Investors with higher capital costs tend to focus on investments with higher return rates and corresponding higher risks, and ii) investors focus on diversifying the highest risks, such as the uncertainty of natural resources. Furthermore, risk is understood as standard deviation (uncertainty) around an average value, i.e. down- and upside risks. However, the return rate seems to be only understood to compensate investor mainly for downside risks and hence does not seem to consider possible opportunities within the investment.

In the survey performed in the second phase, 108 responses were obtained of which 100 fully completed. It provides a response rate of 30%. This section contains a summary of the main findings. In

capital budgeting in RE investments, 87% of the participants apply internal rates of return (IRR), 68% net present value (NPV), 58% both estimate cost of equity (equity return rates) and total cost of capital of project (project return rates), and 56% the hurdle rate of return concept while payback period (41%), multiple approaches (34%), profitability index (PI, 9%), real options (9%) and value at risk (VaR, 6%) are less frequently considered. Likewise, valuing opportunities and synergy possibility are not sufficiently taken into consideration (20%). In risk analysis, the majority of respondents apply scenario analysis (73%) and sensitivity analysis (70%) while simulations (e.g. Monte Carlo simulations) are much less frequently applied (10%). For estimating cost of equity, the Weighted Average Cost of Capital (WACC, 56%) and that discount rates are at least as high as defined hurdle rates (45%) are applied by the majority of respondents, more frequently than other approaches, such as the benchmarking approach with comparable companies or investments (34%), the Capital Asset Pricing Model (CAPM, 27%) and multifactor methods (0%). Moreover, a considerable amount of respondents use specific discount rates for different countries (53%), technologies (48%) and project stages (42%). In contrast, risk-adjusted discount rates (RADR) for particular projects are not applied that frequently (35%). Furthermore, the majority of respondents stated that their organizations either adjust the return rated requirements annually (30%) or each time a major project is evaluated (24%). In case of valuation adjustment for risk, the majority of the respondents adjust the cash flows considering weather-related volume risk (52%), operational risk (52%) and market risk (38%) while respondents mostly consider the political/regulatory risk (40%) to adjust the discount rates. Risk mitigation are performed by the majority of respondents by performing an internal and external Due Diligence (76% / 69%), reducing operational risks with appropriated maintenance contracts (74%), arranging for machine failure insurances (64%) – but less frequently for weather protection insurances (8%) – reducing market risks with feed-in tariffs or long-term power purchase agreements (62%) and standardization of procedures (57%).

## CONCLUSION, IMPLICATIONS AND LIMITATIONS

The findings show that many practitioners do not regularly apply all valuation concepts, such as RADR, as suggested by Finance Theory, meaning that there is still a gap between theory and practice in RE investment valuation processes which corresponds to findings obtained in previous studies among practitioners (Gitman and Mercurio, 1982, Graham and Harvey, 2001, Brounen et al., 2004). Having mainly shown descriptive statistical results in this paper, the ongoing research will analyse the collected survey data in more depth applying quantitative statistical tests. Detailed results will be presented at the conference.



**Keywords:** Risk perception, risk assessment, asset pricing, valuation, investment return, none-traded assets, private equity, renewable energy, survey, practitioners, Switzerland, Germany

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## FINANCIAL TECHNOLOGY ECOSYSTEM: INSIGHTS INTO CHALLENGES AND OPPORTUNITIES IN RUSSIA

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### ABSTRACT

Innovation nowadays receive much attention due to their positive impact on the value creation in businesses and entire economy. The rapid growth of new technologies and startup companies in the field of financial industry, or FinTech, require a deeper analysis regarding the efficiency if its development process. This paper tackles this research gap, using a qualitative multiple case study design in order to examine the role of agents & interactions in the countries with best-in-practice FinTech-ecosystem. By means of cross-case analysis, the author compares developed ecosystems & conceptual canvas with Russia & explore the recipes explaining how development of nationwide FinTech-ecosystem in developing countries can be fostered.

### INTRODUCTION

Innovation describes “the combination of knowledge that result in new products, processes, input and output markets, or organizations, which include not only technical innovations, but also organizational and managerial innovations, new markets, new sources of supply, financial innovations, and new combinations” (Yawson, 2009). Innovation ecosystems entirely are “collaborative arrangements through which firms combine their individual offerings into a coherent, customer-facing solution” (Adner, 2006). So, the fast-growing field of financial innovation has now grown from its disruptive roots into an industry in its own right – accumulating more than 20 billion USD in 2015 and jumped almost ten-fold since between 2010 (KPMG, 2016). Meanwhile, some regions are actively competing to create best-in-class FinTech- ecosystems and are increasingly progressive in their use of government and regulatory policy to support FinTech-startups<sup>1</sup>. FinTech-ecosystems development & adequacy for innovation initiatives enable growth opportunities for many innovative sectors (payments, software, big data, peer-to-peer lending, mobile banking, etc.).

The concept of innovation ecosystem is already known for a decade, but researchers still highlight the need for further research with respect to the ecosystem development process. This paper fulfills

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<sup>1</sup> FinTech-startups as high-growth organizations combining innovative business models and technology to enable, enhance and disrupt financial services (FS). This definition is not restricted to start-ups or new entrants, but includes scale-ups, maturing companies and even non-FS companies, such as telecommunication providers and e- retailers (EY, 2016).

the lack of study and uses a multiple regional case study analysis in order to identify the attributes for efficient development dynamics in the countries with best-in-practice FinTech- ecosystems, as well as to analyse if a development or behavioral pattern can be identified. In this paper we investigate the most successful cases and propose a framework for benchmarking the FinTech-ecosystem development with a set of recommendations to increase the efficiency of interactions of actors.

## THEORETICAL FRAMEWORK

Generally, previous studies have suggested that developed innovation ecosystem help market stakeholders obtain needed resources and services. Particularly, (Schmookler, 1966) and (Schumpeter, 1934) placed innovations at the focus of economic change, arguing that innovation- oriented market power could create more economic value than Smith's "invisible hand" (Smith, 1776). Innovation is described as the driver for companies' growth, allowing them to prosper and sustain their profitability (Drucker, 1985) and is paramount for increasing the its competitive advantage (Porter, 1985). The diversity of companies within a given sector of the economy (e.g. financial sector) is considered as one of the driving factors of innovation for the national economy (Malerba, 2002).

An innovation ecosystem itself "consists of a group of local actors and dynamic processes, which together produce solutions to different challenges" (Oksanen & Hautamaki, 2014). The review of the academic papers suggests that the successful development of these attributes could be explained by efficient interaction between main actors and the effectiveness of resources, governance, strategy and leadership, organizational culture, human resources management, people, partners, technology and clustering (Durst & Poutanen, 2013). Besides these attributes, existing business literature on in this field (Strategy&, PwC, 2015) provide some core FinTech- ecosystem components: talent, business environment, access to markets, access to capital, government & regulatory support, financial expertise and demand. The recent study (EY, 2016) compares developed FinTech-ecosystems of seven regions and benchmarking the best cases, as it's believed the strength of the ecosystem provides the strongest indication of the future health of this nascent sector.

The burgeoning significance of ecosystems thinking for both scholars and practitioners has culminated in different research agendas, which aim to enhance our understanding of what innovation ecosystems are and how they change over time (Mäkinen & Dedehayir, 2012). Under this concept, scholars like to see the need to improve the relationships between actors of a given innovation ecosystem by creating a favourable framework to attract better ideas and investments and to accelerate the introduction of innovative products and services in the global market.

## RESEARCH DESIGN & METHODOLOGY

Prior identified research suggestions support the use of qualitative methodology as a format for an innovation ecosystem analysis. Following the general guideline stipulated by (Yin, 2014), case study instrument is a preferred approach to understand or to predicts similar results and differences between the cases, as well as predicts contrasting results but for predictable reasons. Employing the method of comparative case study analysis of eight countries (“innovation ecosystem maps”), (Frenkel & Maital, 2014) have developed the visual foundation that enable to concretely portray of those nations’ innovation ecosystems with the aim to achieve consensual understanding of the innovation ecosystem as a basis for building effective pro-innovation policies. Another paper (Pichler, 2015) applies multiple case study analysis of innovation ecosystems within three regions with the aim to identify the development dynamics in the innovation ecosystems and to analyse if a development pattern can be identified.

Thus, this paper applies a multiple case study approach using non-technical literature to capture the development processes of eight different FinTech-ecosystems (Silicon Valley, New York, London, Berlin, Dublin, Tel-Aviv, Singapore, Hong Kong), which represent the building blocks for the subsequent cross-case analyses according to the hypotheses and compare them with the Russian case. Additionally, we’ve already conducted 32 in-depth interviews with experts of the Russian financial market and semi-structured survey of 37 FinTech-startups (statistical population was 102 FinTech-startups)<sup>1</sup>, covering almost all major stakeholders of the Russian FinTech- ecosystem (banks, venture finds, IT & telecoms, payment systems, development institutes & infrastructure, business-angels, regulatory, professional media & associations). This approach of qualitative and quantitative analysis led us to grounded field-based visualization & description of the entire national FinTech market model. In this manner, we performed triangulation among different evaluators (Yin, 2014).

## EXPECTED RESULTS, CONTRIBUTION, CONCLUSION & RECOMMENDATIONS

Due to the fact that the development of the national financial market is largely correlated with the development of the national economy, its successful functioning determines largely the quality of life of its citizens. While there is a widespread acceptance within the Russian financial industry of the need to marshal the full capabilities of the financial services to respond to challenges, it is not clear that this includes an adequate understanding of actors and its commitment within the entire innovation ecosystem and defining characteristics or unique capabilities that increase the efficiency of

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<sup>1</sup> As of 1<sup>st</sup> April 2016.

actors within the FinTech-ecosystem.

This academic work makes a contribution to research in its theoretical and empirical part. The author elaborated a systematic comparison of eight ecosystems with similar concepts within financial industry. This comparison highlights the most important characteristics of each concept and constitutes a basis for further researches with respect to concepts' similarities and differences, as well as it serves as guidance for practitioners ("stakeholders of FS") deploy supportive capabilities to their exact needs. This study is of great relevance of all market stakeholders and can be contributed to effective policy decision making and promotion of social responsibility thereby benefiting the extended community at large.

**Keywords:** *innovation ecosystem, digitalization, financial technology, multiple case-study analysis.*

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# ARE YOU UNIONIZED? THE RELATIONSHIP BETWEEN JOB INSECURITY AND ORGANIZATIONAL ENTREPRENEURSHIP, IN THE FRAMEWORK OF UNIONIZATION

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## ABSTRACT

In the 21<sup>st</sup> century, companies must regularly innovate, thus they encourage employees to become entrepreneurs within the organizational setting. While some studies of organizational entrepreneurship have focused on the macro-level, far less has been researched from the viewpoint of the employees. Moreover, to date, the relationships between incivility and organizational entrepreneurship, as well as the relationship between organizational entrepreneurship and job insecurity, were not assessed. Moreover, these relations were not investigated in the framework of unionization.

Our current study addresses these deficiencies by assessing the relationships between incivility, job satisfaction, organizational entrepreneurship and job insecurity while differentiating between two groups of employees namely unionized vs. un-unionized employees.

Drawing on the social exchange theory, we hypothesized that incivility decreases employees' job satisfaction and in turn decreases its resourcefulness to generate new ideas. Additionally, it was hypothesized that incivility will enhance job insecurity perceptions while organizational entrepreneurship will inhibit perceptions of job insecurity.

Moreover, it was hypothesized that these relations will be intensified for un-unionized employees that are less protected and are working in a less stable environment with higher inclination to innovate.

Data were gathered from 510 valid responses. Findings indicated that incivility affects organizational entrepreneurship, through perceived job satisfaction that serves as a mediator. Additionally, it was found that incivility enhance job insecurity perceptions while organizational entrepreneurship inhibits perceptions of job insecurity.

Moreover, it was found that these relations are intensified for un-unionized employees.

The findings of the current study indicate the importance of interpersonal relations in enhancing organizational entrepreneurship.

**Keywords:** *Incivility; organizational entrepreneurship; social exchange theory; job insecurity; unionization; job satisfaction.*



# PROJECTOCRACY OR PROJECTARIAT? HOW PROJECT WORK SHAPES WORKING CONDITIONS IN PUBLIC, NON GOVERNMENTAL AND BUSINESS SECTORS

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## ABSTRACT

The consequence of the widespread use of projects as the main method of implementation of the tasks is called projectification. The phenomenon of projectification radically affects working conditions of people employed in all kind of organisations. Stress, high requirements, excessive control – all of these factors are experienced by employees engaged in project work. At the same time, career in project management is promoted as a promising profession of the future. To show the duality of project work conditions in the era of galloping projectification, I use two terms: *projectocracy* and *projectariat*. I understand *projectocracy* as aristocracy of project work. Projectocracy is therefore a group of people involved in project temporary work but enjoying privileges of a stable employment, in comparison to *projectariat*, which is a precarious group of project workers. In this article I present a dichotomous image of the project management profession. Therefore the goal of the paper is to critically rethink the notion of project working conditions.

## INTRODUCTION

Working conditions of project managers have been discussed by project management researchers, especially researchers associated with the Critical Project Studies (e.g. Paton, Hodgson & Cicmil, 2010; Hodgson & Paton, 2016; Gällstedt, 2003), since many years. However, in times when nearly everyone practices project management to some degree, it is extremely important to continue research on impact this method of work has on individuals and the whole society. Project management is nowadays one of the main forms of executing activities by business, public and non-governmental organisations (NGOs). The consequence of the widespread use of projects as the main method of implementation of the tasks is called projectification (Midler, 1995). The phenomenon of projectification radically affects working conditions of people employed in all kinds of organisations. However, it seems that it affects it in different ways. This paper aims to contribute to the research on projectification by introducing a concept of *projectocracy* as opposed to the notion of *projectariat* (Szreder, 2016). Therefore the focus is set on the impact of projectification on working conditions in NGOs, public and business organizations. The research question which shapes the concept of the research that will follow this brief introductory

text is: what are the differences between the impact of projectification on working condition in public, non-governmental and business sectors? The concepts presented in this abstract are part of a wider research project that deals with the issues of projectification. So far, partial results of the above mentioned research, which concerned the processes of projectification in non governmental (Bogacz-Wojtanowska & Jałocha, 2016) and public organizations (Jałocha, 2016) have been published. In this article I present a dichotomous image of the project management profession. The goal is to critically rethink the notion of project work.

## PROJECTIFICATION

The presence of projectification had been at the beginning noticed at an organisation level (Midler, 1995), however, it soon turned out that it also applies to individuals and whole societies. Beside the general admiration of project work and its consequence – projectification, there are also critical voices referring to this phenomenon. Project work is not only about flexibility and freedom - on the contrary, it may bring a series of negative consequences for the people involved in it. Problems created by projectification have been pointed out in many publications connected with Critical Project Studies (Packendorff & Lindgren, 2014; Cicmil & Hodgson, 2006). Since its beginning, Making Projects Critical movement, has been drawing attention to such aspects as power, ethics, moral responsibility, and the dysfunctions of project rationality. Galloping projectification is therefore an ambiguous phenomenon, carrying not only positive but also negative effects. One of the effects of projectification is its impact on working conditions of people involved in project work. Stress, higher requirements, excessive control – all of these factors are experienced by employees engaged in project works in their workplace (Asquin, Garel, & Picq, 2010). However, at the same time, career in project management is promoted as promising profession of the future.

## PROJECTOCRACY VERSUS PROJECTARIAT

To show the duality of project work conditions in the era of projectification, I use two terms: *projectocracy* and *projectariat*. I understand *projectocracy* as aristocracy of project work. Projectocracy is therefore a group of people involved in temporary project work but enjoying full privileges of a stable employment. *Projectocrats* are these employees who have good employment conditions, additional benefits offered by employers and high wages. These are people that are considered having the highest positions in the project world. As shown by salary reports (Project Management Institute, 2015), in terms of employment conditions and wages, they are usually experienced project managers, PMO managers and Portfolio directors, employed in business. Projectocrats feel safe, because they know that when they finish one project, there will be another one. They are not responsible for “project hunt” –

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like project workers in e.g. non governmental sector, who have to receive a project grant to continue their work and employment.

*Projectocrats* are opposite of *projectarians*. K. Szreder (2016) states, while analyzing examples of project work in the field of culture, that projectarians are people who own nothing but their potential to enter into projects and they are both similar and distinct from proletarians, who are defined by their lack of property. *Projectariat* is a concept, according to which the working conditions of projects workers are compared to members of proletariat (Szreder 2016) and/or precariat class (Szreder 2016; Jałocha 2016). The concept of precariat originates from works by Pierre Bordieu, who described precarity as a "new mode of dominance" resulting from restructuring of the economy that "forced workers into submission" (Choonara, 2011). Bourdieu thought that the globalisation and fragmentation of the labour market created a permanent sense of insecurity among employees. According to G. Standing (2011), the precariat consists of persons employed under flexible labour relations, not under permanent employment contracts concluded for an indefinite period. The characteristic qualities of the precariat mentioned by Standing include the instability of employment, the lack of professional identity, the performance of work below one's qualifications and outside (normal) working hours. In addition, members of the precariat class have more difficult access to pension, sickness and parent benefits. All this problems are faced by many employees involved in project work, especially in non governmental (Bogacz-Wojtanowska & Jałocha; 2016, Szreder, 2016) and public sectors (Jałocha, 2016).

## CONCLUSION AND FURTHER RESEARCH

Project work is often characterized by a limited time of employment and a specific relationship between the employee and the employer. The dividing lines defining the differences between the projectocracy and projectariat are forms of employment. However, these lines seems to be blurred. As research indicates (Gällstedt, 2003) perceptions of working conditions are not only affected by the form of employment, but also by two important factors - motivation and stress. It means that even in the world of *projectocracy*, rules of project work are strongly influencing working conditions. The issue of *project overload* - fragmentation, disruption and inefficiency, caused by switching between assignments for simultaneous projects (Zika-Viktorsson et al., 2006), stress generated by project work and its speed, deadlines and triple constraints – they all influence people involved in project work, no matter which industry they work for. Even projectocracy may be strongly influenced in a negative way, although this influence is rather connected with the negative psychological effects, not financial working conditions. Although the business provides stability, gives good salary and contracts for an indefinite period of time, project work may be damaging. It is therefore important to understand the impact of projectification on working conditions in all areas of organizational activity. To counter the

pathological changes brought by projectification this phenomena has to be carefully identified through research. Therefore, in addition to seeking the best solutions to increase the efficiency and effectiveness of projects and project teams, we should investigate how project work affects employees and thanks to it find different coping strategies that may be used to reduce uncertainty and damaging effects of project work.

**Keywords:** *projectification, projectocracy, projectariat, working conditions*

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## BOOSTING FINANCIAL INCLUSION THROUGH DIGITAL ECOSYSTEMS

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### ABSTRACT

### INTRODUCTION

Recently, the world has faced the problem of *financial exclusion*, which means that not everyone has access to financial services or does not have enough knowledge and experience to use them. The opposite phenomenon is *financial inclusion*, which means that there is a uniform availability and usage of financial services (World Bank, 2014). It was empirically shown that developed and inclusive financial system has a potential to reduce information and transaction costs, to influence saving rates, investment decisions, technological innovation, and long-run growth rates (Beck et al., 2007).

Despite the relative success of market agents' efforts, at the beginning of 2010 the figures showed that more than 50% of the global population still remained uncovered or under-covered by the formal banking system (Chaia et al., 2009). Nevertheless, precisely at that time the market experienced new transformation. Firstly, it became clear that, as in any kind of business project, building mutually rewarding relationships among stakeholders plays essential role in success and effectiveness (Moore, 1996). This boosted the formation of a new ecosystem which connected various market agents in their goal to promote financial inclusion as governments, financial companies (mainly banks), business entities and citizens got involved in promoting and enhancing financial inclusion together. Secondly, more innovative companies were entering the market with the offers to make everyday financial transactions both less expensive and more convenient to the customers, giving life to the new phenomenon of digital financial platforms. Thus, the ecosystem of financial inclusion transformed and a new big group of stakeholders from *digital* world entered it (GPFI, 2014).

### THEORETICAL FRAMEWORK

Introduction of ecosystem and, in particular, digital ecosystem approach to the realm of financial inclusion strategies in the first place has brought up the issue of strong interdependence of market agents' actions (Ehrbeck et al, 2012). As suggested by Adner and Kapoor (2010), the readiness of complements plays essential role in solving uncertainties in ecosystem perspective, which is highly relevant for the financial inclusion issues: i.e. there will be no possibility to develop mobile banking until the broad and high-quality mobile network is settled. Moreover, they suggest that the key element

of project or innovation success is the particular position of each stakeholder in the ecosystem. Additionally, the ecosystem approach goes along with value creation phenomena (Adner and Kapoor, 2010) which is dramatically relevant in case of projects towards financial inclusion as there is still no unified approach on how to measure the effectiveness of each particular project or policy in this area.

## **EMPIRICAL SET-UP**

Following the broad range of studies on entrepreneurial ecosystems, we suggest that there is a number of factors that, along with the level of the digital ecosystem development, may impact the level of financial inclusion, such as macroeconomic factors (i.e. GDP per capita, unemployment, interest rates), transparency factors (including corruption), cultural factors (i.e. Hofstede index), etc. (Suresh and Ramraj, 2012). The sample includes 30 countries, which represent 6 potential combinations of the stage of financial inclusion development (advanced, intermediate, preliminary) and the level of digital financial services penetration (high, medium, low). The Financial Inclusion level is proxied with the access to financial services and measured by the percentage of population with formal banking account indicator provided by WorldBank Findex dataset (see World Bank, 2014). The digital ecosystem development is proxied by the level mobile and Internet penetration, which is an essential part of infrastructural innovation as suggested by GPFI (2015).

We will use the Qualitative Comparative Analysis technique to understand which configurations of factors lead to the higher (lower) levels of financial inclusion. This method, firstly, allows to work with small-sized sample, which is relevant for current case due to the data availability issues. Secondly, it allows for multiple configurations of attributes causing the same outcomes, as well as for the asymmetry between the configurations leading to the desired outcome and to its negation. Thirdly, QCA approach reveals not only significant existing conditions, but also significant absent characteristics essential for the successful outcome (Woodside, 2010).

The analysis of country-level data will allow us to build up configurations explaining the relationship between digital ecosystems and financial services development, as the proposition is that it is not always the case that the level of digital ecosystem development corresponds with the level of financial inclusion.

## **RESULTS, CONCLUSIONS AND IMPLICATIONS**

The study, therefore, aims to explore which configurations of macroeconomic, transparency and cultural factors explain the level of digitalization in financial inclusion. The results of this study contribute to the literature devoted to digital ecosystems in finance and provide practical implications

in three ways: first, by linking the literature on ecosystems and financial inclusion and highlighting how those two phenomena might gain from realizing common features; second, by emphasizing the potential of designing specific public policies to stimulate activities in digital financial services. Finally, the study will reveal the link between the successful digital ecosystem formation and efficient project management in the field of financial inclusion. Moreover, the research has implications to managerial practices, both governmental, particularly, in developing financial market's policies and legislation initiatives towards new players or financial services, as well as business through providing the strategic advice on interaction with other market agents in ecosystem.

**Keywords:** *Financial Inclusion, Banking, Ecosystem, Digital Platforms*

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## THE IMPACT OF WORK VALUES ON TURNOVER INTENTIONS OF ISRELI HIGH TECH ENGINEERS

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### ABSTRACT

Managements are concerned about the economic and non-economic implications of employee turnover intentions because it leads to both direct and indirect significant costs. Direct costs, include, recruitment, selection and replacement of a new employee, whereas, indirect costs may include pressure experienced by remaining peers, decreasing morale and satisfaction as well as the quality of service to the clients, decrease in companies productivity and profitability, loss of sales, social capital, human capital and intellectual capital, One of the consequences might be voluntary turnover that is very pronounced among engineers and IT workers particularly in high-tech companies.

This phenomenon is salient among Israeli professional Hi Tech Employees since they have high demanded not only in the local Israeli labor market but also abroad. They are highly educated, entrepreneurial thinking, and always looking for the next challenge to move forward.

In spite of enormous number of studies on Turnover Intentions, this study concentrates on the effect of work values on turnover intention.

A sample of 180 IT employees (i.e., software engineers, developers, programmers) in high-tech companies was studied. A set of hypotheses were tested using a multi-variate hierarchical regression analysis and structural equation modeling (SEM).

We focused on the mediating role of internal marketing (that views the employee as an internal customer) between work values and turnover intentions.

The finding in the hierarchical regression showed that work values did not have any direct effect on turnover intention. However, in SEM analysis it was found that work values effect on turnover intentions is mediated by internal marketing.

Theoretically and in practice, in order to implement work values to deal with turnover intention managements have to adopt and implement internal marketing policy.

**Keywords:** *Turnover intentions (TI); IT sector; employees in Israel; Organizational policy; Work values, Internal marketing.*



## INVESTIGATING CRITICAL SUCCESS FACTORS FOR CUSTOMER ENGAGEMENT IN THE E-HEALTH SECTOR

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### ABSTRACT

The eHealth sector is one of the fastest growing sectors in the world. For companies, like vitaliberty GmbH, who are engaged in that market sector, the differentiation in terms of innovative offers to customers is a huge challenge for the future. Today, customer satisfaction is not a sufficient precondition to be successful, so companies need to make customers investing their emotions in their brands. Their goal should be to turn their customers into ambassadors for their brands to influence their peers in order to win more-and-more prospects and into co-creators for continuous product and service improvement.

The aim of this paper is to elicit the success factors for involving customers in product development and recommendation in the e-Healthcare sector. Deriving customer-engagement insights from Kumar (2013), Eyal (2014), Haven (2008) and Hollebeek (2011) an initial conceptual framework is developed for getting the customers engaged in a short period of time.

To validate this framework of success factors for customer engagement in the e-health sector, this paper undertook a case study as the qualitative research method. The semi-structured interviews were conducted with a) CEOs of companies who were successful in customer development in a short time and b) potential customers who match the research method by an external research organization. The interim results of the research show that a) the companies with the highest growth rate of customers have a good interaction with their customers and also see them as team members in the context of product development; b) The prospects desire to be committed with a brand which has values congruent with their own ones and can express expertise in form of persuasive content-marketing. They also show a high tolerance to accept recommendations from friends and family via social media activities.

This study makes a scholarly contribution by demonstrating that a professional service and a combination of online and offline marketing actions are success factors for effective customer acquisition for online products. In addition, a contribution for practice is provided in showing that companies who involve their customers in growing the product and brand are more successful due to the higher level of knowledge on the needs of their customers.

## SMES IN DATA-DRIVEN ERA: THE ROLE OF BIG DATA TO FIRM PERFORMANCE

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### ABSTRACT

Nowadays, small and medium enterprises (SMEs) face an extremely competitive, globalized, technological changing and “knowledge-based” environment. Knowledge management and exploitation play a crucial role to innovation and competitiveness of enterprises. Digital technology has transformed the rules of innovation and performance in enterprises, since 90% of the worldwide data today was generated in just the last 2 years and that datafication is growing rapidly, while connected devices and sensors through “Internet of Things” are increasing (50 billion smart connected devices globally by 2020). As digital data are everywhere, in every sector and economy, big data is described as an asset for enterprises’ innovation, providing knowledge about processes, customers, human capital and technology necessary for enterprise.

Big data, datasets with 3Vs: volume, variety and velocity, is a major resource for enterprises valuable knowledge to enterprises added value contribute to increased competitiveness and innovation. The leverage of big data provide enterprises not only in ICT sector, valuable knowledge leading on competitive advantage against rivals in terms of productivity, resources allocation and efficient marketing. In addition, data-driven innovation provides the ability to improve or foster new products/services, processes, organizational methods and markets.

There is evidence about positive impact of data-driven approach to firm performance, however it is limited to large enterprises. The purpose of this study is to present evidence about the impact of big data in SMEs’ performance and data-driven approach in innovative activity (data-driven innovation) of Greek SMEs, taking in account the economic turbulence of the recent years. More specifically, a survey-based methodology in Greek SMEs will be used in order to collect the necessary data. As it is an ongoing research, the results are expected to present a significant positive impact of data-driven approach to enterprises performance.

**Keywords:** *big data, SMEs, performance, knowledge, competitiveness*

## LINKING EMOTIONAL INTELLIGENCE TO LEADERSHIP: EVIDENCE FROM THE GREEK PUBLIC SECTOR

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### ABSTRACT

Emotional intelligence (EI) has become one of the most popular issues in the areas of management and psychology during the last two decades (Joseph and Newman, 2010). A number of studies have been conducted, proposing that emotional intelligence is positively correlated with the job performance (O'Boyle *et al.*, 2011), leadership success (Goleman, 2000) and profitability (Stein *et al.*, 2009). Despite the extended research, there are controversial viewpoints in the EI literature about its terminology as well as its approach to measure it (McCleskey, 2014). According to Boyatzis *et al.* (2000) emotional intelligence is noticed when an individual displays the competencies that comprise self-awareness, self-management, social awareness and social skills appropriately and in adequate prevalence to be effective under a set of circumstances. It is declared that the skills of emotional intelligence, in contrast to IQ, can be learnt during one's lifetime and are regarded as crucial factors of effective leadership (Goleman, 2000).

Previous studies reveal that emotionally intelligent leaders are considered to be more devoted to a firm, are happier, have a better performance and promote trust and collaboration among their employees (Gardner and Stough, 2002). Dulewicz and Higgs (2003) studied emotional intelligence in UK directors and confirmed that the higher an individual fosters in a firm, the more critical the EI becomes. The aim of this paper is to contribute to emotional intelligence research by examining its relationship to leadership in the public sector as well as to investigate demographic and positional attributes related to EI concept.

Therefore, a quantitative survey was carried out in a public sector organization in Greece. A sum of 322 successfully completed questionnaires were collected and analyzed with SPSS software. To measure emotional intelligence, a questionnaire based on Emotional Competence Inventory (ECI) was distributed. The ECI is a 360-degree tool formed to evaluate and develop the emotional capabilities of enterprises and individuals (Watkin, 2000) and it was previously used in Greek public context (Efkarpidis *et al.*, 2012). Leadership was examined by Hart and Quinn's (1993) questionnaire, based on Competing Values Framework and proposing four leadership roles.

Results indicate an affirmative relation between leadership styles and emotional intelligence. However, an interesting fact is that participants scoring high on each of the four leadership roles,

display higher emotional intelligence. This finding is important as new research proposes that effective executives use a variety of leadership roles in different circumstances (Goleman, 2000). The results also demonstrate that hierarchical position is a discerning attribute to our sample with lower positional levels scoring higher in EI. Moreover emotional intelligence was found to be differentiated among educational levels in accordance to our expectations. Indeed, Goleman (1998 as cited in Downey *et al.*, 2006) stated that emotional intelligence can be evolved within training, resulting in a positive effect on an organization's performance by increasing employees' emotional abilities. Finally, gender was examined as a predictor of emotional intelligence but no statistical significance was found to our sample. As Tsaousis and Kazi (2013) mention, some researchers argue that women are better than males at managing their emotions, while others indicate that gender has no effect on emotional intelligence.

The above findings call attention to organizations to intervene in order to improve the emotional intelligence of their workforce. However, since the present research has been conducted on a single public organization, awareness should be raised as far as the generalizability of the results providing useful insights for further exploration.

**Keywords:** *emotional intelligence, leadership, public sector, Greece*

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## THE MOTIVATION OF SPORTS CYCLING TOURISTS

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### ABSTRACT

The aim of this study is to single out the perceived significance level of factors associated with commitment to cycling events as well as the role of the host destination in sport tourists' travel decisions. The effect of seven factors on the intention to participate again in cycling events was explored; notably, cycling event attractiveness, degree of attachment with the event, involvement with cycling, promotion of physical and mental health, socializing opportunities, elements of sportscape and host destination characteristics. A quantitative method was utilized for the purpose of this study and a total of 146 questionnaires were successfully completed and analyzed by means of the SPSS. The findings supported that the intention to participate again is significantly explained ( $R^2=0.520$ ,  $\text{sig}<0.000$ ) by the degree of attachment with the event, the involvement with cycling, the perceived promotion of mental health and the elements of sportscape.

### INTRODUCTION

Scrutinizing influential factors on individuals' motivation to take part in the sport of cycling is crucial for sport event managers in order to organize sustainable and successful sport tourism events. Nowadays, taking part in the sport of cycling is in the middle of a resuscitation with motivation for taking part or/and spectating these events being dependent upon the athlete as well as the destination (LaChausse, 2006). Recognizing the numerous motives for participating in cycling contests may play a crucial role in promoting cycling associated events and assisting in sustainable tourism development of the host destination. The purpose of this research is to expand our understanding about the factors influencing sports tourists' cycling contest participation and travel decisions, and more specifically to examine the relationships between their intention to participate (IP) and a number of motives, namely cycling contest attractiveness (ATTR), degree of attachment with the event (ATTA), involvement with cycling (INV), perceptive promotion of physical (PH) and mental health (MH), socializing opportunities (SO), elements of sportscape (SF) and host destination characteristics (HD).

### THEORETICAL BACKGROUND

Motives for participating in cycling events may vary by the attractiveness of the event, which alludes to the expected magnitude that this event possesses for a cyclist, along with the recreation, contentedness

and enjoyment received from taking part in this (Alexandris et al., 2011). Individuals' attachment with the specific cycling event and its characteristics may also have a direct link effect with their intention to participate, as according to Kulczycki and Halpenny (2014), individuals look for events which not only accomplish basic requirements but are also favorable for accomplishing their optimal performance objectives. Past research has shown that motives for participating in cycling may also differ by activity level and the degree of involvement with cycling (LaChausse, 2006). More specifically, involvement refers to the importance of a recreational activity as part of an individual's overall perception about life and can affect individuals' future participation and behavior (Ridinger et al., 2012). According to previous studies, the preventive health and sickness avoidance prospect, is among the main frameworks used in order to anticipate individuals' participation in exercise activities (Tsai, 2005). This prospect supports that the probability of espousing a deterrent health behavior, such as cycling, relies on an individual's anticipation of a health threat and a sentiment that cycling will reduce this threat. Socializing is an important aspect people scrutinize when choosing to take part in recreational activities. Research has shown that people's initial intention when searching for a recreational activity is to find opportunities to interact with new people. This kind of relationship among individuals with similar interests can occur through cycling (Hill and Green, 2012). Sportscape factors refer to the physical surroundings individuals face during their participation in a recreational activity. More specifically, sportscape factors and settings are found to be important participation and travel motivators, particularly for sport tourism events, having a direct link effect on cyclists' intention to participate (Kulczycki and Halpenny, 2014). Sport events are frequently utilized to demonstrate the natural, cultural and historical aspects of the hosting area, which in turn can influence the athletic experiences of cyclists as they constitute an important motivator for event participation (Kulczycki and Halpenny, 2014).

## **METHODOLOGY, RESEARCH DESIGN AND DATA ANALYSIS**

A quantitative method was used and questionnaires were collected from participants of a cycling event in Greece. The questionnaires were distributed during the award ceremony of the event, by a research team of 5 and were completed in their presence. A total of 146 questionnaires were successfully completed and analyzed by means of the SPSS.

## **RESULTS, DISCUSSION AND IMPLICATIONS/CONCLUSIONS**

The great majority of the participants were men (95.2%). Their age ranged from 18 to 78 years old; 89% were over 35. Half of them were employed in the public or private sector, while 38.6% ran their own business. They were well educated; 36% held a bachelor degree and 23.4% had completed postgraduate

studies. The majority (70.3%) were either married or divorced and their income did not exceed 2.000€ (77.2%). In terms of training, 90.4% of the participants said they were training outdoors four times per week (mean=4.5, s=1.34) for a total of 12 hours (mean=12.61, s=7.57) and had participated in fifteen cycling events in the past (mean = 15.35, s=16.84). Linear correlation analysis showed that the intention to participate in a future cycling event (80.7%) was significantly correlated (bivariately) with all the (seven) factors proposed in the model. Nevertheless, when examined together, multiple linear regression analysis showed that only four of them had a significant effect on the intention to participate again. The predictive power of the model was noteworthy ( $R^2=0.520$ , sig<0.000) while the respective equation was:  $IP = 1.507 + 0.475*ATTA + 0.289*MH_1 + 0.122*MH_2 + 0.009*INV - 0.191*SF$  (Factor Analysis revealed two distinct dimensions for the perceived promotion of mental health, MH1 and MH2). All effects were significant at  $p<0.01$ , except for MH2 and SF that were significant at  $p<0.05$ .

**Keywords:** *cycling, travel motivators, involvement, sportscape, socializing, health, destination*

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## **THE IMPACT OF STAKEHOLDER INVOLVEMENT DIVERSITY ON COMPLEX PROJECT SUCCESS: THE CONTEXT OF TOD PROJECTS**

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### **INTRODUCTION**

Projects with high public usage usually require substantial investment due to the wide scope and high operating and launch costs. At the same time, business ecosystem of these projects is diverse and stakeholders do not anticipate future cash flows due to myopic expectations. As a result, coordination failure often prevents key stakeholders and project initiators from raising necessary amounts of funds even though successful realization of such projects leads to welfare improvements for all ecosystem participants.

One category of such initiatives, transit-oriented development (TOD) projects, has attracted special attention of both practitioners and academics due to strong growth of activity in this segment lately. Yet, literature considers only a few projects as successful attributing most of the failures to the lack of sufficient amounts of funds (Dittmar & Ohland, 2012). Practitioners as well as academics prescribe private public partnership (PPP) financing and management schemes as the ultimate solution to this problem. Nevertheless, the inefficiency in project realizations and fundraising remains even with PPP professionals' participation.

This article aims to contribute to two burgeoning streams of literature. The first one approaches the motivation of stakeholders in the business ecosystems (e.g., Moore, 1996). The second identifies the determinants of both project failure and project success (e.g., Belassi & Tukel, 1996; Cobo-Benita, et.al., 2015; Tang, et.al., 2010).

In the literature on project success factors, there is a need for a deeper understanding of complex projects, with a multitude of stakeholders. Ecosystem literature seeks to understand the impact of stakeholders and complementors on business performance; however, it has focused predominantly on the interaction with a single type of stakeholder, rather than considering the multiple stakeholders at the same time. This research aims to fill this gap by evaluating the role of benefits and management structure diversity for project success on a set of information about the major benefits of the key stakeholders in TOD projects.

## THEORETICAL FRAMEWORK

The interdisciplinary nature of this study separates the relevant literature in two major strands. The first one concerns the PPP and success of the projects with high public usage. The second one explains the role of the benefits in capital budgeting and financial decisions as well as the welfare implications of the project launch. This study also introduces major stakeholders of the TOD projects ecosystem. Following, for instance, Dittmar and Ohland (2012) as well as the analysis of the existing TOD launch cases this research identifies 8 major stakeholders: operators, government officials, individuals, investors, developers, landowners, financial services providers and local businesses.

### *PPP and project success*

Academic literature on the determinants of the project with public usage success identifies PPP management and financing scheme as one of the core conditions for efficient investment attraction campaign and further welfare improvement as a result of project success (e.g., Tang, et.al., 2010, Stiglitz & Wallsten, 1999). That is why this study hypothesizes that PPP is necessary for both investment attraction and further welfare improvement efficiencies.

### *Benefit and management diversities and project success*

Another important source of investment attraction and welfare improvement efficiencies are the minimal levels of benefits in the project and the benefit diversity (e.g., Smith & Gihring, 2006). TOD projects are associated with large number of stakeholders all of whom receive benefits as a result of the project launch. For example, government can receive improved security in the society and higher tax collections due to area development, while individuals can get faster means of getting to the desired destinations and new retail area with diverse products. This study associates low minimal benefits with low investment funding efficiency, while high benefit diversity is associated with successful investment attraction and high welfare improvement. Finally, high management structure diversity is associated with both successful funding and high welfare efficiencies.

## EMPIRICAL SET-UP

The empirical analysis of the project performance determinants utilizes a sample of 20 largest TOD launch cases from different countries around the world identified from the practitioners' guides and public sources. This study uses the fsQCA as well as the conventional non-hypothesis statistical testing (pairwise correlation coefficients significance in particular) methods to test the proposed relationships. Benefit and management structure diversities are measured using Simpson's (1949) index of diversity.

## RESULTS

We find significant robust evidence in favor of benefit diversity importance among stakeholders for success of the TOD launch. In particular, high benefit diversity is a necessary condition for efficient fund raising as well as high welfare improvement after TOD project launch. The lack of benefit diversity is a necessary condition for low welfare implications following the project launch. In addition, we find that, contrarily to the widespread market belief the PPP scheme is not a necessary condition for project success.

## CONCLUSIONS AND IMPLICATIONS

The results highlight the importance of non-financial determinants such as benefits for financial decisions and success of the investment projects with public usage. One of the main implications of this research concerns the investment analysts as well as project managers looking for the tools beyond financial cash flows. In the projects with the aim at high public use the cash flows are not always evident for all stakeholders. Utilizing the benefits in finance can also improve the understanding of the corporate and project value, especially of the projects with non-evident financial flows or for the non-for-profit organizations. Considering benefits before the project launch can allow the managers to improve both funding and the welfare implications of their projects.

**Keywords:** *Transit-oriented development; stakeholders; project success; ecosystem.*

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## **BENEFITS OF THE RETAIL PAYMENTS CARD MARKET: RUSSIAN MERCHANTS' EVIDENCE**

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### **ABSTRACT**

### **INTRODUCTION**

Payment cards are integral to the modern and innovative retail and finance ecosystems. Practitioners and ecosystem stakeholders confirm the increasing benefits associated with the participation in the retail payments market. The main critique to the existing market conditions, however, is based on the argument that some groups of agents exploit benefits from the participation in the market at the expense of other agents. Main advocates of these arguments have been the merchants, which incur direct costs in terms of merchant fee with the decision to accept payment cards. This resulted in proposals to conduct regulatory and balancing interventions to the market equilibrium. None of such proposals has proved to be Pareto efficient yet (Weiner & Wright, 2005), which may be explained by the inability of both market participants and regulators to empirically evaluate current levels of benefits from the participation in the market, and the consequences of shocks and interventions for these benefits.

This article aims to contribute to two rising strands of literature. The first one concerns the formation of the retail payments market equilibrium (Bedre-Defolie & Calvano, 2013; Rochet & Tirole, 2002; Weiner & Wright, 2005). This literature so far has not provided any quantitative estimates of the benefits for stakeholders, claiming this value to be theoretical rather than empirical. This research aims to fill this gap by estimating the merchants' benefits at the Russian retail payments market.

To the best of our knowledge, only Krivosheya and Korolev (2016) proposed the quantitative estimates for the cardholders' benefits associated with the payment and cardholding decisions. This study, however, investigates the benefits of merchants that, unlike cardholders, make only one decision in regard to the participation in the retail payments market, namely, the decision to accept cards. In this respect this research is complementary to the article by Krivosheya and Korolev (2016) and extends the results found by authors to the new market segment, which will deepen the understanding of the general retail payments market equilibrium.

Additionally, this research contributes to the growing empirical literature on the emerging retail payments markets (e.g., Reinartz et al., 2011) by analyzing current market situation and identifying the merchant-related stylized facts of the retail payments market in Russia.

## **THEORETICAL FRAMEWORK**

Merchants' benefits are integral to the market equilibrium formation (Baxter, 1983; Rochet & Tirole, 2002; Bedre-Defolie & Calvano, 2013). Combined with the benefits of the cardholders and other participants they determine the level of equilibrium interchange fees to balance the costs and benefits among the two sides of the retail payments market (Baxter, 1983). Sources of benefits include the increased security, faster payments processing, increased average check as well as network externalities (Baxter, 1983; Bedre-Defolie & Calvano, 2013).

## **EMPIRICAL SET-UP**

### *Sample and estimation*

The empirical analysis of the benefits draws a representative sample of 800 traditional merchants. Face-to-face surveys conducted in 2013-2014 included all Russian regions and quotas for the shop types to ensure sample representativeness for the Russian retail payments market. Only traditional retailers were included in the sample. The effect of benefits on the share of cashless payments is estimated using Heckman two-step procedure.

### *Benefit evaluation method*

Gross benefits are the sum of net benefits and (negative) loyalty program reward payments. The questionnaire includes the question about the total costs of acquiring services for the merchants. This question invited the merchants to evaluate not only the direct costs associated with the merchant discount fee but also the indirect costs such as forgone transactions volume and increased staff training costs. The amount of self-reported costs corresponds to the actual willingness to pay for the acquiring services by the merchant. Due to the duality of costs and benefits (Luenberger, 1992), this also identifies the level of total merchant's benefits associated with the decision to accept cards. Dividing this value by the total merchant's transactions volume allows getting the benefits in percentage terms. This study uses benefits in terms of Russian Rubles that is why the obtained value of benefits is multiplied by the average check value.

This research further separates the benefits into two types: opportunity benefits and direct benefits. Opportunity benefits are defined as the percentage of transaction volume that would be forgone if the

merchant doesn't accept payment cards. Direct benefits are simply the difference between the total benefits and opportunity benefits. Direct benefits represent all the benefits that are attributed to the acceptance decision (e.g., improved security, increased speed of transactions, network externalities, increases in average check) net of costs of such decision (e.g., increased staff training costs, possible short queue line length increase).

## RESULTS

This study finds significant robust evidence in favor of positive merchants' benefit existence as a result of decision to accept payment cards. In particular, average total benefit per transaction is 16.34% or 89.91 rubles, while average opportunity benefit is about 14.5% or 79.8 rubles per transaction. All benefits are statistically different from zero as suggested by Student's t-test.

## CONCLUSIONS AND IMPLICATIONS

The results in this study highlight the existence of the positive merchants' benefits on the retail payments market. Findings imply that the benefits of the participation in the retail payments are not limited to the payment systems contrary to the existing belief (Weiner & Wright, 2005). Besides, the method of empirical benefit evaluation allows approaching the regulatory initiatives ex-ante in order not to disturb fragile equilibrium. Empirical evaluation of the benefits is a step towards the introduction of fair pricing of the payment instruments, implementation of effective policies and identification of socially optimal market equilibrium.

**Keywords:** *Retail payments; payment cards; benefits; merchants' acceptance; financial services.*

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# INTELLECTUAL CAPITAL DISCLOSURE OF COMPANIES IN CRISIS: A CASE STUDY

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## ABSTRACT

### PURPOSE

Even though the concept of corporate disclosure has been extensively investigated, little importance has been given to the disclosure of companies in crisis. The aim of our research is to identify a new model of corporate disclosure able to monitor the IC (intellectual capital) trend of company in crisis.

As the most relevant issue for a company in crisis is the reliability, we assume that the traditional reporting is not able to produce and sustain it. In fact, stakeholders don't trust the traditional reporting because they are afraid of budgetary policies. It means that even the most transparent management ever, in a period of crisis, wouldn't be able to obtain the stakeholders' trust through traditional reporting instruments.

In order to gain the stakeholders' trust - and consequently increase the reliability of the company - it is necessary to provide complementary information through the voluntary disclosure, in particular using the IC reporting.

In fact, the implementation of this instrument allows the preservation of the company's reputation by monitoring the relational capital as part of the IC value.

In this perspective, it is necessary to identify indicators able to regularly and effectively measure the reputation of the company.

### DESIGN/METHODOLOGY/APPROACH

The methodology is based on a single case study. It will be analysed the model of corporate disclosure of an Italian public company recently failed: Postalmarket.

The relational capital is a significant asset in a public company, shaped by his reputation and reliability. The research will be carried out investigating the Postalmarket case over the company crisis period, in order to identify actions aimed at increasing the level of public reputation over the period of crisis.

In order to identify indicators that could measure the reputation trend, it will be analysed the level of sentiment linked to news disclosed on the social media and on the press during the crisis period.

## ORIGINALITY/VALUE

Scholars have always investigated the corporate disclosure and IC report in traditional companies, rarely in company in crisis. Hence, the paper is directed to fill the literature gap that concerns the need of identifying a new model of corporate disclosure able to manage the IC trend – particularly the relational capital - of a company in crisis.

## PRACTICAL IMPLICATIONS

Through the identification of indicators that regularly and effectively measure the reputation of the company, we aim to assess the company reliability. Through the identification of indicators linked to the sentiment on the press, we could have a greater perception of the company reliability and its ability to “make reliable” the disclosed information, with particular reference to business plans.

Therefore, in our perspective, the voluntary disclosure within companies in crisis has not to be studied as a self-legitimization, but as a tool to increase the company’s relational capital and consequently its reliability.

**Keywords:** *Corporate Disclosure, Intellectual Capital, Case Study, Economic Imbalance, Corporate Crisis, Corporate Insolvency Law*

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# **MANAGERIAL CAREERS IN SMALL SOCIAL ENTERPRISES: CONTEXTUAL ISSUES**

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## **ABSTRACT**

### **PURPOSE**

The purpose of this paper is to contribute to our understanding and knowledge of the contextual factors influencing the careers of small third sector social enterprise managers; which is still a relatively unexplored area of inquiry. A particularly relevant approach for studying careers is through the external and internal career framework and applying them in their specific work contexts. The external career perspective views a career as a series of positions, promotion, job opportunities and roles defined by organisations (Schein, 1996; Guntz, 1990; Aidan, et al., 2003). From this perspective, careers provide the link between individuals and social structures. The individual makes choices within a set of social expectations and institutional structures, about how to reconcile his or her personal objectives and values with the priorities and needs of the organisation (Levinson, et al., 1978; Whalley, 1986; Herriott, 1992; Vos et al., 2008). The idea of an external career is that it comprises of observable choices that one makes, and the activities in which one engages, such as the job title or the job role (Nicholson, 1996, Maher, 2015).

Studies from the external career perspective (Lee and Smith, 1992; Lam, 1996; Skilton and Bravo, 2008) contends that a career is shaped by social structures such as, the state, social class, educational systems, organisational characteristics and availability of jobs (Hall, 1976; Dalton, 1989; Barnett and Bradley, 2007).

The internal career is conceptualised in terms of an individual's values, motivation and view of their career orientations and decisions between personal and professional life (Sparrow and Hiltrop, 1996; Ismail, 2003; Coetzee & Schreuder, 2009, Maher, 2015) a key question when considering the internal career is "what do I want from work? (Derr and Laurent, 1989). This is about the way the individual defines the work they enjoy and cherish. Therefore, the internal career will vary between individuals within the same organisation and even those doing the same job.

Studies from the internal career perspective suggest that the individual's internal career needs influence their selection of specific occupations and work settings. These studies contend that

organisations that are unable to provide opportunities that fulfil an individual's internal career needs are likely to find that they will be unable to retain these individuals in the long term (Schein, 1990). This may lead to dysfunctional organisational outcomes such as reduced organisational commitment and high turnover (Schein, 1978; Delong, 1982; Ismail, 2003; Coetzee & Schreuder 2009). This paper will address the research question of, to what extent do public policy/organisational factors and the individual's career needs shape and constrain careers of small social enterprise managers?

## **DESIGN/METHODOLOGY/APPROACH**

To obtain rich data, 44 managers were interviewed face-to-face using an interview guide. The qualitative findings of the study add to new knowledge, and help to explain, how the individual's career needs, public policies and organisational factors influences managerial careers in small social enterprises.

## **FINDINGS**

The qualitative findings of the study add to, and help to explain contextual factors that influence the careers of small third sector social enterprise managers. The results suggest that although there were some concerns with employment conditions—pay and career management systems, most manager's positive experiences of teamwork, organisation culture, size and structure are factors influencing managerial careers in small social enterprises. What is plausibly unique about the research is the way the findings have captured through interpretive accounts of managers experiences of personal, organisational and public policies that influenced their careers.

## **IMPLICATIONS**

The research findings have raised important issues for policy makers and organisations. The government should review funding policies for the sector organisations. For instance, funding should be for periods longer than three years as this will help small social enterprises to offer longer term employment contracts and provide time to develop managerial careers that are suited to the needs of managers and organisations. Organisations should support and involve managers in the management of their careers in organisations.

## ORIGINALITY

The research has contributed to the literature by exploring the inter-play between public policies, organisational factors and manager's career needs. It also makes an important contribution to the field of managerial careers in small social enterprises which is still a relatively unexplored area of inquiry. Due to the scarcity of empirical studies examining careers of small social enterprise managers, the research findings have wider relevance and applicability, particularly in small social enterprises in other countries.

**Keywords:** *internal and external careers, managers, social enterprises, third sector*

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# THE IMPACT OF CULTURE AND RELATIONSHIP QUALITY ON COOPERATION BETWEEN EXPORTING COMPANIES AND LOCAL DISTRIBUTORS

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## ABSTRACT

This research encompasses the main concepts of international marketing and relationship marketing in order to understand the role played by culture and by the quality of relationships on cooperation between Portuguese exporting companies and their distributors in Angola.

This study is particularly relevant because studies on emergent markets are scarce. Another advantage of the research is the fact that it is based on an analysis of matched pairs, that is, the Portuguese exporting companies and their distributors in Angola. The aim of this research is to understand how the culture and the quality of relationships impact the cooperation established between companies, in the context of the internationalization of business. It should also be noted that relationships characterized by trust and commitment, in international contexts, have been scarcely ever studied, as well as the impact of the cultural similarities/differences on the structures of relationship.

In terms of methodology we opted for a qualitative analysis: five case studies of Portuguese exporting companies and five case studies of Angolan distributors were analyzed. Interviews to the managers/CEO of the Portuguese exporting companies and to the employees in charge of exporting activities were performed, as well as to their corresponding Angolan distributors, to obtain answers to the research questions. The selection of the Portuguese companies was based on a list of the fifty largest Portuguese companies exporting to Angola provided by the Agency for Investment and External Commerce of Portugal, EPE (AICEP) in August 2011.

Overall, the results show that culture, trust and commitment, impact the cooperation of business relationships between the Portuguese exporting companies and their Angolan distributors.

**Keywords:** *Angola, Portugal, exporter, distributor, Relationship Marketing, International Marketing, Culture, Trust, Commitment and Cooperation.*

## ACCOUNTING AND MATHEMATICAL MODELS FOR THE MANAGEMENT OF PUBLIC RESOURCES IN A SPENDING REVIEW CONTEXT

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### ABSTRACT

The aim of this research is to identify new ways of improving the whole circuit, starting with tax payments made by citizens and ending with the supply of goods and/or services to the public, while enhancing the use of the *res publica* and its value when shared and managed with transparency and in an appropriate way. The following questions represent the guidelines of the project: ▪ what actions can we initiate to improve the citizen's perception of the activity of public administrations, which is financed by that same citizen through internal revenue? ▪ how can we optimize the allocation of such resources in order to rationalize public expenditures and avoid generalized cuts, which can threaten the efficacy and efficiency of the administrative action in the long-term? With this aim in mind, the theme of accounting harmonization has been dealt with. This has as its main objective the improvement of the information provided to the stakeholders by accounting data regarding the public administration's financial, economic and property management.

The method of analyzing that is being proposed is quali-quantitative: ▪ the testing of new techniques of accounting for public resources in light of national and international accounting standards; ▪ the application of mathematical methods and models to business decisions.

Preliminary results stress that the Italian public accounting reform is able to improve the information provided to stakeholders by accounting data. This research, which proposes a comparison among different accounting techniques used for public resource management (cash accounting and accrual accounting) represents a contribution towards: 1) implementing EPSAS and IPSAS, currently underway; 2) identifying new elements and information useful to improve the management choices and techniques of public managers.

### INTRODUCTION

Following the 2008 economic crisis our society has been going through a difficult period, which affects various social classes in different ways and imposes remarkable social changes. In these situations, the role of the state is enhanced, together with its responsibilities. The quality and quantity of work and services supplied by public administrations represent a critical factor for business competitiveness and citizen wealth. Public administration management requires knowledge of the rules that govern corporate reality, while remembering that the public administration has its peculiar traits.

The aim of this research is to identify new ways of improving the whole circuit, starting with tax payments made by citizens and ending with the supply of goods and/or services to the public, while enhancing the use of the *res publica* and its value when shared and managed with transparency and in an appropriate way. The following questions represent the guidelines of the project: 1) what actions can we initiate to improve the citizen's perception of the activity of public administrations, which is financed by that same citizen through internal revenue? 2) how can we optimize the allocation of such resources in order to rationalize public expenditures and avoid generalized cuts, which can threaten the efficacy and efficiency of the administrative action in the long-term?

## SHORT EXPOSITION OF LITERATURE

With this aim in mind, the theme of accounting harmonization has been dealt with. This has as its main objective the improvement of the information provided to the stakeholders by accounting data regarding the public administration's financial, economic and property management (Soverchia, 2008). In Italy, financial accounting, whose unique objective is considered surveying financial variations (income and expenditure), represents an informational instrument for public administrations. Many academics have underlined for years the advantages but also the limits of an accounting system for authorization aims (Borgonovi, 2002). The goal of this system lies in the will of politicians to limit the discretion of public decision-makers in the management of collective resources (Anessi Pessina, 2005). This system, which attributes particular importance to budget planning and little to the final balance data, is poorly used to manage public corporations that operate in a strong dynamic environment (Mussari, 1996). The lack of quantitative analysis also based on the use of mathematical and/or statistical techniques for the interpretation and control of final statement information does not permit evaluating public activity. The illustrated limits have inspired some academics to propose the introduction of an alternative system - the economic and assets accounting in double entry that, for the purposes of determining fiscal year result, measures economic the aspects of management (costs and revenues). The economic and assets accounting has been enhanced in the private sector and it is different from financial accounting in its aim, object and method. The introduction of accrual accounting in public administrations for fact-finding or authorization purposes is an issue that is disputed by Italian (Farneti and Pozzoli, 2006; Anessi Pessina and Steccolini, 2007; Anselmi *et al.*, 2012) and foreign academics (Guthrie, 1998; Carnegie and West, 2003; Carlin, 2005; Van der Hoek, 2005; Paulsson, 2006; Lapsley *et al.*, 2009). European and international accounting standards (EPSAS and IPSAS) tend to attribute exclusive importance to accrual accounting. In Italy, the current accounting reform has placed financial accounting (which is the main and fundamental accounting system for

authorization purposes (Simeone, 2015)) side by side with economic and assets accounting for informative purposes.

## THEORY DEVELOPMENT

These exposed criticalities, shared and noticed not only in Italy but on an international level, have permitted the birth of a new line of thought on the modality of public administration management in England, known as New Public Management (NPM) (Hood, 1991; Boston *et al.*, 1996; Flynn, 2012) and oriented in a particular way to satisfy the citizen's needs in respecting the principles of the private sector (efficacy, efficiency and economy). Recognizing an undisputed value to the public administration's activity, the New Public Management researches appropriate solutions to respond to various citizens' interests emerging especially from the divergence between those who support economic sacrifices and those who benefit from public action (Caperchione, 2000). In this environment, in the planning phase, it is necessary to use suitable techniques of measuring the citizens' needs and, in the control phase, verify if these needs were satisfied, in terms of quality and quantity. Some authors have criticized both the economic theories based on New Public Management's model (Hughes, 2003) and its application in the public sector without considering its peculiarities (Pollitt, 1993). The emergence of some problems related to New Public Management has promoted the development of alternative managing systems, a model of public governance (Kooiman, 1993; Rodhes, 1996) that provides for the citizens' and associations' joint participation in the definition of social goals, and undoubtedly contributes to creating public value (O'Flynn, 2007). The function of planning is determined by support of involved individuals in policy-making, in order to realize more focused and efficient public politics. However, the adoption of an appropriate accounting system seems fundamental (Zangrandi, 1994; Borgonovi, 1995; Valotti and Zangrandi, 1996; Manes Rossi, 2002; Steccolini, 2004).

## METHODOLOGY OF RESEARCH

In response to the above-mentioned questions, the method of analyzing that is being proposed is qualitative: ▪ the testing of new techniques of accounting for public resources in light of national and international accounting standards; ▪ the application of mathematical methods and models to business decisions. For this purpose, interconnections are analyzed between accounting/governance models of public administrations on one side and the necessity to use a mathematical model for data collection and processing on the other. The first phase analyses the strengths and weaknesses of the accounting reform identified by the 20 local governments which adopted economic/assets accounting in 2013, evaluating the relationship between the two accounting systems. The method of analysis is qualitative



(questionnaires) and quantitative (experimental financial statements). In the second phase, the specific case of Campania (a Region of Italy) is investigated to identify reasons for its exclusion from the experimentation phase. In the same context, the current and planned strategies adopted by the region to face difficulties in managing limited resources are also analyzed; indeed, limited resources are a factor Campania needs to take into account while navigating accounting rules and balance obligations. The method adopted is qualitative (interviews and questionnaires), and it focuses mainly on critical points emerging from the previous analysis conducted on 20 local governments (collaboration within the structure, software updates, employee training).

## FIRST RESULTS AND FUTURE PERSPECTIVES

Preliminary results stress that the Italian public accounting reform is able to improve the information provided to stakeholders by accounting data (Masi, 2015). The effective knowledge of public resources and the modality of management could therefore allow a citizen to better evaluate the actions of the local authority administrators and also stimulate his/her active participation in the socio-economic context of membership. A deep analysis of managing techniques adopted in the international context will help verify these hypotheses and also, it will help improve the quality and quantity of services offered to citizens. This research, which proposes a comparison among different accounting techniques used for public resource management (cash accounting and accrual accounting) represents a contribution towards: 1) implementing EPSAS and IPSAS, currently underway; 2) identifying new elements and information useful to improve the management choices and techniques of public managers.

**Keywords:** *Local government, public sector accounting, reform, accrual accounting, cash accounting.*

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## CROSS-BORDER ACQUISITIONS: THE IMPACT ON PRODUCTIVITY, EMPLOYMENT AND WAGES

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### ABSTRACT

In light of increase of global cross-border mergers and acquisitions activities in the last 20 years, the question of whether firms acquired can benefit from foreign take-overs is crucial from a managerial and a policy perspective. In order to shed light on these issues, the present study uses data from Italian Mediobanca Research Department database for the first time, to examine at the firms level the performance differences of all the mid-sized foreign-controlled firms in the manufacturing sector. From 1999 to 2009, 143 Italian medium-sized firms were acquired by foreign groups (data from Mediobanca). This study analyzes the impact of cross-border acquisitions on the performance (labor productivity, employment and wages) of the target firms, compared with purely domestic firms (non-acquired), with two specific research focuses: 1) cherry and lemon picking effect, in order to understand whether prospect foreign investors select acquisition targets having higher performance (cherries) or prefer ones having lower performance (lemons) before the acquisition; 2) geographic distance, in order to understand whether firms acquired by EU multinationals show higher post-acquisition performance than firms acquired by non-EU multinationals. For a more in-depth understanding of our analysis, a further specification is between firms that are acquired by an industrial investor and ones acquired by a financial one (private equity funds). Our findings suggest that the performance of the acquired firms improved. Furthermore, the results show a marked difference with respect to the nature of investors (industrial and financial) and the geographic distance between acquirer and target firm.

**Keywords:** *cross-border acquisitions, performance, mid-sized target firms, cherry and lemon picking, geographic distance.*

## **ATTITUDES, PERCEPTIONS AND BEHAVIOUR AMONG ELEMENTARY SCHOOL STUDENTS IN GREECE TOWARDS ENVIRONMENTALISM**

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### **ABSTRACT**

The overarching aim of this research study is to explore the behaviour of school children studying in elementary schools in North Greece towards environmentalism. Environmentalism advocates the lawful preservation, restoration and/or improvement of the natural environment, and may be referred to as a movement to control pollution or protect plant and animal diversity. Environmentalism is an attempt to balance relations between humans and the various natural systems on which they depend in such a way that all the components are accorded a proper degree of sustainability. Specifically, the study aimed at investigating whether students were able and willing to actively engage in activities that demonstrate environmental consciousness and responsibility such as saving energy in their classrooms and schools in general. An important dimension of the research study was the examination of the impact of social factors such as one's family, on the students' perceptions and behaviour.

The research study's objectives were:

- (1) To identify the students' perceptions and attitudes towards energy consumption.
- (2) To explore the types of reference groups and their impact on students' perceptions towards energy consumption.
- (3) To identify the types of motives, which can encourage students to become more conscious in terms of energy consumption.
- (4) To investigate whether a preposition towards environmentalism can be cultivated at a young age.

The researchers collected primary data from three groups of participants: elementary school students (83), teachers (30) and parents (34) in order to cross-examine their attitudes, perceptions and behaviour on the specific topic. Data was collected through the use of questionnaires in order to test the following hypotheses:

- H1: There is a negative correlation between the schools' policy towards energy consumption and achieving a change in the students' behaviour towards the consumption of energy.

- H2: There is a positive correlation between the school's policy towards energy consumption and the students' behaviour which is achieved through the teaching of the subject of natural sciences an integral part of which is the topic of energy.
- H3: There is a positive correlation between environmental education and the creation of positive student behaviour towards the natural environment.
- H4: There is a negative correlation between the students' positive behaviour towards the natural environment and a required change in their daily routine.

The research findings suggest that although the parents' have never participated in actions that safeguard the physical environment, the students have actively participated in activities and initiatives such as planting trees and saving water, which suggests that they are more environmentally conscious than their parents. Even though the children tend to imitate their parents' behaviour, it seems that there is a general concern towards preserving and protecting the physical environment among the younger generation in Greece. The study also revealed that unfortunately the teachers have not yet successfully and consistently managed to transfer their knowledge and understanding regarding environmental responsibility to their students. These findings raise some questions and concerns? What are the school authorities doing in this respect? What is the government in general doing in order to create environmental consciousness among its citizens in an era of social and environmental responsibility.

# **THE IMPACT OF A ONE DAY ADVENTURE-BASED EXPERIENTIAL LEARNING (AEL) PROGRAMME ON THE COMMUNICATION COMPETENCE OF MANAGERS**

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## **ABSTRACT**

Dynamic business environments require the utilisation of every avenue that can help foster efficiency and business performance. There has been considerable interest in the impact of communication on business effectiveness and performance. Assisting individuals in improving their communication competency should therefore be a priority. It is assumed that when individuals improve their communication competence, this will contribute to improved business performance.

Literature suggests the positive impact of Adventure-Based Learning (AEL) interventions on manager competence (Carioppe & Adamson 1988; Bank 1994; Burke & Collins, 1998; Neill 2003; Gardner & Flood 2006, Wu, Hsieh & Wang 2013). Despite the positive claims that have been made by advocates of AEL, sceptics are concerned that such claims were overzealous. Unfortunately a lack of well-organised, definitive and widespread knowledge about the efficacy of the diverse types of interventions in AEL still exists as empirical evidence relating to the efficacy of AEL and the transfer of learning to the workplace are still lacking.

The fact that literature on interpersonal communication competence and leadership within the organisational behaviour and management is limited (Stigall 2013), gives rise to the question whether AEL could be used to contribute to the communication competence of individuals. The aim of the study was therefore to determine the developmental impact of a one day AEL programme (ropes course) on communication competence of adult learners at a business school. These individuals are full time employees in diverse corporate settings, doing a part time management course. It was argued that, if these learners are exposed to the one day AEL programme, their communication competence will improve as a result of this experience.

The methodology employed in this study entailed a quasi-experimental pre-test / post-test design and comprised an experimental and a control group. The research instrument used was the Communicative Adaptability Scale developed by Duran (1983). The Communicative Adaptability Scale (CAS) is a dispositional (natural qualities of a person's character), molar-level measure of social communication competence. All groups completed the CAS questionnaire as a pre-test and again as a post-test. Data were analysed using procedure MIXED of the SAS software system (SAS, 2009).

This longitudinal study demonstrated that AEL programmes can be used to contribute to the communication competence of individuals as it had a positive impact on five of the six dimensions of communication competence. These six dimensions (social composure, social confirmation, social experience, appropriate disclosure, articulation and wit) could be adapted during a social communication interaction. As adaptability is an essential characteristic that enables a person to interact more effectively with others, the improvement of the mentioned dimensions of communication competence will enable the individuals to adjust to various communication contexts and be more effective in their communication endeavours.

**Keywords:** *Managerial communication, Communication competence, Adventure-based experiential learning (AEL), Communicative adaptability scale (CAS),*

## LEAN INTERNATIONALISATION

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### ABSTRACT

This research project analyses the research problem of how and why high-tech start-up firms (HSF) from small and open economies (SMOPEC) differ in their speed of internationalisation using the example of Switzerland.

It is based on the conceptual framework of the “born-global-firm” (BGF) theory and the reviewed and updated Uppsala internationalisation process model.

The research questions will be answered using a multiple case study research design with qualitative, in-depth, face-to-face, and semi-structured interviews of subject matter experts (SME). This study uses a sample size of twenty SMEs to allow for a better triangulation of data and to strengthen the research results.

After a random sample is drawn from a database of Swiss HSFs, the typical cases of the sample are selected. The sample consists of twenty SMEs, which are CXOs, investors, and founders of a HSF and which have expertise knowledge as entrepreneurs and senior executive managers of HSFs (including expertise in technology and IP management as well as fundraising).

The research results show that factors like the skills of the entrepreneur and the management team, their business networks, the business model of the HSF, the market entry mode, the successful implementation of a structured market development process, the uniqueness of the technology and the product portfolio, the availability of market opportunities, and the size of the home market influence the speed of internationalisation. Based on these findings, the concept of lean internationalization is developed to support HSFs from SMOPECs to internationalise earlier, faster and above all more successful than today.

The findings of this qualitative multiple case study research project contribute to the field of research of international entrepreneurship, because researchers will gain a better understanding of how and why HSFs from SMOPECs differ in their speed of internationalization. The findings of this qualitative multiple case study research project contribute to managerial practice, because they will help managers to increase the efficiency of international market development.

**Keywords:** *early and fast internationalisation; speed of internationalisation; high technology firms; high-tech firms; start-up firms; small and open economies; born global firms; BGFs; Uppsala internationalisation process model; lean internationalisation.*



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## **CORPORATE DIPLOMACY AND CORPORATE SUSTAINABILITY IN GLOBALIZATION CIRCUMSTANCES**

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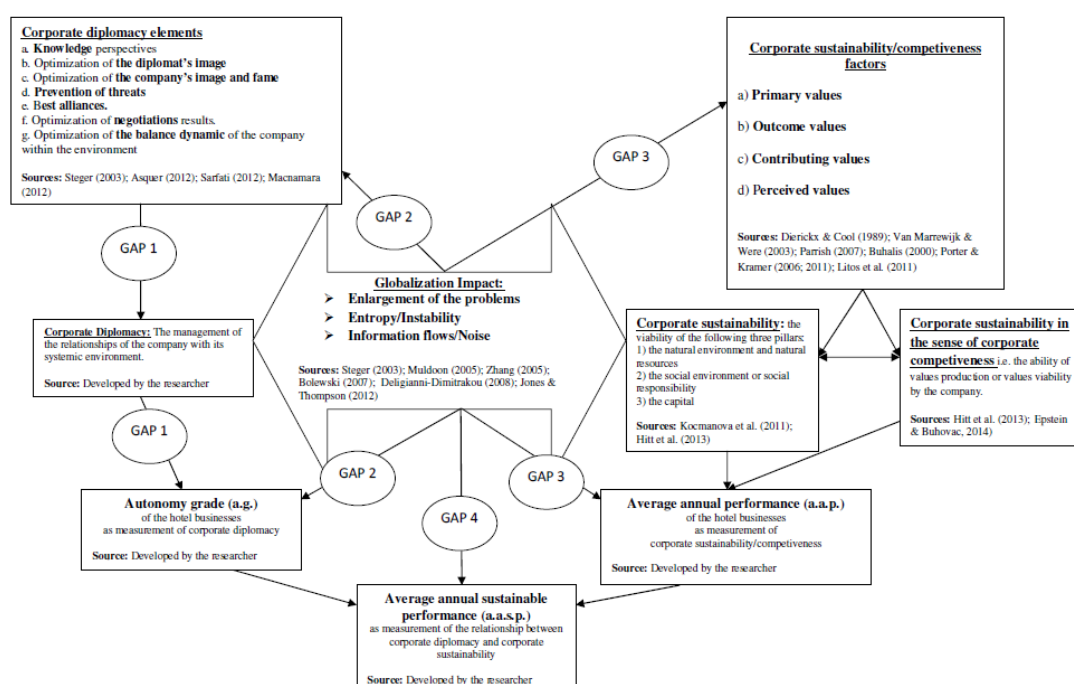
### **ABSTRACT**

The purpose of this paper is to introduce a new conceptual framework of the relationships between the dimensions of corporate diplomacy (CD), corporate sustainability (CS) and globalization. This is part of our ongoing research.

In the literature appear several approaches of the term CD. In this study, these are recorded and categorized into two schools of thought (Paraschaki et al., 2014). The first includes those defining the concept via its purpose, which is CS (Porter, 1980; London, 1999; Ordeix-Rigo & Duarte, 2009). The second includes those defining the concept as the management of the relationships between the company, as a system, with its systemic environment (Steger, 2003; Asquer, 2012; Sarfati, 2012; Macnamara, 2012). Additionally, the first group of scholars approaches the concept inductively while the second group deductively, a fact that depicts the academic gap on the definition of CD (GAP 1). CS is defined as a balance policy based on three pillars: i) the environmental pillar of preserving the natural-resources and the environment, ii) the social pillar of human resources' exploitation for responding to the company's social mission, that is evolving adjusted to current social conditions and human resources 'viability' and iii) the economic pillar of preserving the capital and absorbing only the profits (Van Marrewijk, 2003; Kocmanova et al., 2011). Globalization is changing the conditions under which businesses are developing their CS. It entails growth of the global economy with analogous enlargement of problems in the business environment. Moreover, globalization generates great entropy/instability in the business environment. It also involves information flows and 'noise', demanding new balances and adjustments (Steger, 2003; Zhang, 2005; Deligianni-Dimitrakou, 2008). As a result, facing CS problems, in this new system, requires a new kind of management, i.e. CD. What is more, the new standards introduced by globalization change dynamically the business environment of hotels too, where this study is oriented too, jeopardizing simultaneously their CS, a fact that justifies the need for further analysis of the relationship between CD and CS (Zhang, 2005; Katsaros & Tsirikas, 2012; Jones et al., 2014; Fountoulaki et al., 2015). This reality is also depicted by the following academic gaps in literature:

- Steger (2003); Muldoon (2005); Asquer (2012); Macnamara (2012); Sarfati (2012) and Monteiro and Meneses (2015) refer to the need for further academic research on the relationship between CD and globalization, emphasizing also the lack of empirically tested concepts on this area (GAP 2).
- Jayawardena et al. (2013); Martínez & del Bosque (2013); Calveras (2014); Geerts (2014) and Poria et al. (2014) emphasize on the lack of academic analysis on the relationship between hotels CS and globalization (GAP 3).
- Muldoon (2005); Kostecki and Naray (2007); Asquer (2012) and Henisz (2014) respectively, recognize the academic gap on the relationship between CD and CS (GAP 4). Obviously, these scholars refer to CD according to the latter approach, since in the first approach, the relationship is considered patterned by default.

Consequently, this study is oriented to cover the academic gaps regarding the relationship between CD and CS under globalization circumstances (GAPS 2,3,4) while to contribute to the academic gap referring to CD definition (GAP 1). Towards this direction, the researchers have developed an initial framework, to seek a measurement system of CD defined as autonomy grade (a.g.) and of CS defined as average annual performance (a.a.p.) and via those systems to reach a measurement defined as average annual sustainable performance (a.a.s.p.) to identify the common parameters of CD and CS. Moreover, through the impact of globalization over the parameters of both CD and CS, the researchers will seek the impact of globalization over this relationship.



This research is considered academically significant, as it will contribute to the academic gap referring to CD definition and will present a new theoretical framework regarding the elements of CD leading to CS in the framework of globalization, for the hotel sector. Practically significant, the study will assist managers to develop CD strategies, towards dealing with sustainability challenges and ascertaining their CS, in globalization circumstances.

**Keywords:** *Corporate Diplomacy (CD), Corporate Sustainability (CS), Globalization*

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## CASE HISTORY ALPITOUR

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### ABSTRACT

Service marketers often complain about the difficulty of differentiating their services from those of competitors. In many countries, deregulation of major service industries, globalization and I.T. has resulted in intense price competition.

Service differentiation is the solution to price competition, developing a differentiated offer, delivery or image.

**In the light of these considerations, this article presents some interesting new ideas and views on managing service quality and show how, acting by digital innovation in process and service, is important for tour operators to control every moments of truth .**

My AlpitourWorld is a portal where the customers can have access to their booking , promotions, surveys on own satisfaction to improve the service value, more effective and efficient customer value creation and service delivery. Each interaction is a 'moment of truth' for the provider, where not just the service encounter, but also the organization, will be decisively judged by the customer. Service marketers, therefore, have to master interactive marketing skills.

The rules of change of My AlpitourWorld are :1) improve the process 2) innovation (app mobile), in communication tools .

### INTRODUCTION

This report aims to highlight how technology plays an important role in creating competitive advantage in tourism industry and has had a significant impact on the course of action of operators. Service marketers often complain about the difficulty of differentiating their services from those of competitors. In many countries, deregulation of major service industries, globalization and I.T. has resulted in intense price competition.

Service differentiation is the solution to price competition, developing a differentiated offer, delivery or image.

In the following the report, special attention will be devoted to innovation as form of competitive advantage to achieve customer satisfaction in every moment of truth.

## ALPITOUR WORLD CASE STUDY

Alpitour is an Italian tour operator, composed by the following brands:

Alpitour, Francorosso, Viaggidea, Bravo, Karambola, .

The Group is composed by different business units as Tour operating, Hotel, Incoming, Aviation, Distribution, e-commerce, with a complete touristic supply chain to control every step of the journey and of the organization.

Alpitour World is leader in Tour Operator industry in Italy and is in the top ten European tour operator, reaching good results in the market of Independent Traveller .

With over 3,1 million customers, Alpitour World is the leading Italian travel group and high-ranking in the European Travel Industry: an integrated group of excellent and specialized companies.

Alpitourworld is the reference brand for an extensive mass market segment. Francorosso is a cult brand that has always opened new frontiers in the world of package tours combining the experience of a true journey with comfort and excellent services.

Viaggidea looks after the Premium market satisfying flexibility and personalization in all kind of demanding travels: far away beaches, exclusive resorts, a' la carte' itineraries in the most beautiful places. Bravo is specialized in all-inclusive resorts, an excellent mix of amusement, pure energy, sports and a wide array of activities.

Karambola offers flexible solutions, a wide portfolio of destinations and an excellent quality/price ratio with no frills approach to young minded travellers.

Neos is the airline company offering top service on board, safety and comfort, punctuality and efficiency, operating in all the major Italian airports.

The incoming services are handled by Jumbo Tours. VOI Hotels offers a collection of resorts in best-loved beach destinations in Italy and abroad; the division also manages high end city hotels for 'city break' and 'business travel' customers.

Alpitour World controls networks like Welcome Travel Group and Geo Travel Network (Bravo Net/HP Vacanze), a pool of some 2,600 travel agencies, playing a key role in Italy both in leisure and business travel.

My AlpitourWorld is a portal where the customers can have access to their booking , promotions, surveys on own satisfaction to improve the service value, more effective and efficient customer value creation and service delivery. Interactive marketing means that perceived service quality depends heavily on the quality of the buyer-seller interaction during the service encounter. The customer judges service quality not only by its technical quality but also by its functional quality.

Each interaction is a 'moment of truth' for the provider, where not just the service encounter, but also the organization, will be decisively judged by the customer. Service marketers, therefore, have to master interactive marketing skills.

The rules of change of My AlpitourWorld are :1) improve the process 2)innovation (app mobile).

**Keywords:** *digital innovation in tourism,AlpitourWorld,service encounters,managing service quality and service productivity in a digital era, content marketing*

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## SOLUTIONS FOR RISK DATA COMPLIANCE UNDER BCBS 239

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### ABSTRACT

The Basel Committee on Banking Supervision published its *Principles for effective risk data aggregation and risk reporting* (BCBS239) in January 2013. The document contains 11 principles that Global Systemically Important Banks (G-SIBs) will need to comply with by January 2016. Although the implementation of a more robust infrastructure coupled with improved data aggregation and reporting systems undoubtedly enhances risk management capabilities of many financial institutions, the principles are regarded as the least known components of the new regulatory reforms. Any bank striving to comply with the principles will be keen to introspect how risk data is organized and what execution capabilities are at their disposal. With this in mind, the current paper advises banks on the growing number of solutions, tools and techniques that can be used to support risk data management frameworks under BCBS 239.

This paper, based on a survey with 29 major financial institutions, including G-SIBs and D-SIBs from diversified geographical regions such as North America, Europe and APAC, finds out that banks will struggle to stay abreast of competition and to meet the new requirements, if they do not have up-to-date technologies that allow for a complete audit trail of all data changes to be conducted. At this point, the most advanced G-SIBs consider implementing scalable Enterprise Data Management (EDM) platforms to effectively address all issues revolving around BCBS 239. However, the principles encompass other financial services firms not yet affected, as the regulators consider applying BCBS 239 to a broader group of banks. Against this backdrop, the current paper recognizes the prevailing problems with BCBS 239 compliance, and hence undermines the assumptions of the Basel Committee that posits that financial services firms have no difficulties in ensuring the completeness of the risk data.

This paper discusses best practice solutions for master data management, data lineage and end-user implementations. The analysis of this research is broken down into the following sections:

- **Data sources and master data**

This section addresses the growing need for understanding how the data is formed, and hence advises on solutions that allow comparing data attributes across different sources. Additionally, this section discusses the ways of overwriting master data for specific uses and regulatory requirements.

- **Metadata and data lineage**

This section touches on issues revolving around the comprehensive view of risk data. In particular, this section advises on solutions for tracking data changes up to the source that is important for banks willing to meet the BCBS 239 principles. Additionally, this section focuses on data validation methods.

- **End-user solutions**

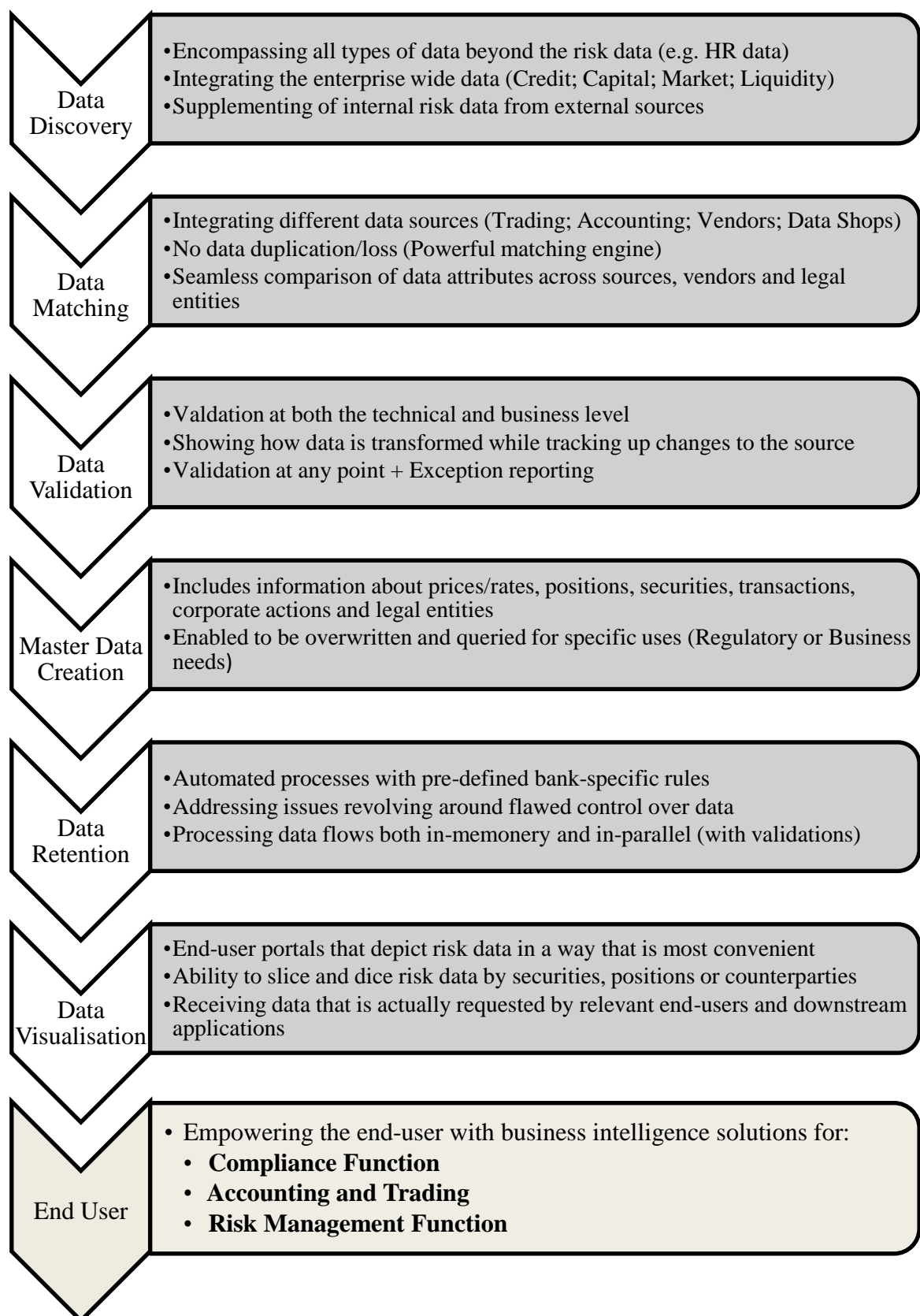
This section analyzes solutions for end users that constitute key elements of risk data compliance under BCBS 239. In doing so, this section aims to increase the overall awareness of failed and successful validations among end users. Most importantly, this section discusses the need for empowering those who use risk data to manage the data, as a way of addressing the existing dissatisfaction with going through data systems' legacies.

- **BCBS 239 capabilities**

This section discusses the ongoing initiatives and a wide range of responses to the new regulations in the area of risk data and compliance. The last section presents banks' perspectives on risk data completeness under BCBS 239.

Figure 1 summarizes all findings presented in the paper and presents the solutions that address common problems faced by banks in the area of risk data compliance under BCBS 239. The paper argues that the BCBS 239 principles are not seen as an obstacle, as the proposed solutions constitute unique opportunities to modernize IT frameworks and enhance risk data management. Figure 1 advises on the appropriate solutions at every stage of risk data cycle focusing on all issues from data discovery to end-user solutions.

**Keywords:** *Banking; BCBS 239; Regulatory Change; Risk Data, Data Aggregation; Masterdata; Risk Reporting; Enterprise Data Management; Data Lineage.*

**Figure 1: BCBS 239 Solutions for Risk Data Stages**

## **HUMAN RESOURCE EMPOWERMENT AND BUSINESS PERFORMANCE: EVIDENCE FROM THE TOURISM AND HOSPITALITY INDUSTRY**

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### **ABSTRACT**

#### **PURPOSE OF THE STUDY**

Human resource empowerment has positive effects on employees' productivity and increase organizational efficiency and service excellence in the hospitality industry (Yuhanis, et al., 2011). Moreover, research has suggested that human resource empowerment on the one hand improves guest satisfaction and employees' satisfaction and efficiency in hotel operations (Kim, 2011), and on the other hand provides a means by which organizations can set forward their competitiveness, promote managerial efficiency and remain competitive in the marketplace (Papaioannou et al., 2012). However, research regarding human resource empowerment in tourism and hospitality industry is still limited.

The primary purposes of this study were: (a) to determine the extent to which human resource empowerment is applied to five-star hotels of Greece, and (b) to examine the relationship between human resource empowerment used by Greek five-star hotels and business performance (profit, ROI, sales volume and market share).

#### **DESIGN/METHODOLOGY/APPROACH**

The authors addressed the research to all five-star hotels of Greece (317 five-star hotels, which recognised by Hellenic chamber of hotels) and involved 317 experienced managers who were the most knowledgeable regarding personnel management issues. Responses were received from 159 managers of 159 five-star hotels with a 50.2% response rate. For the purpose of this study a 30-item questionnaire, was used (developed by Vogt & Murrell, 1990 focused on the issue of empowerment, was modified and simplified by Kriemadis, 2011 & Papaioannou, 2011), in order to provide information on how managers see themselves in terms of the human resource empowerment process and demographic characteristics, using a five point Likert scale. The scales represented three different managerial styles which were: (a) the "empowering style" of management, (b) the "middle-ground style" of management and (c) the "controlling style" of management. In the first case the manager has a managerial style that reflects the manager who creates and shares power. In the second case the

manager has a managerial style that combines the two styles of controlling and empowering in equal proportions, and in the third case, the manager is concerned with control or seldom shares, creates or empowers subordinates. The reliability of the scale was found to be:  $\alpha = .81$ . Also, the particular research used the subjective way of measuring performance. This means that managers were asked to evaluate the performance of their hotel in relation to their current years' objectives, in relation to their last financial years' objectives and finally, in relation to their major market competitors on a five-point Likert scale. On each of the three bases, performance was judged against four criteria two financial (profit and ROI) and two market based (sales volume and market share). The study was a quantitative design and the analysis was exploratory in nature. Descriptive statistics and Spearman correlation were used to examine variables relationship using SPSS software (version 22).

## FINDINGS

From the analysis it is shown that managers of five-star hotels used 79.2% "empowering style", 19.5% "middle-ground style" and 1.3% "controlling style" in the six key factors of human resource empowerment (Total of all Managerial functions). Also, there were significant and positive relationships between the human resource empowerment and business performance in five-star hotels. More specifically, the key factor of human resource empowerment: "Decision - making and action-taking skills" had a significant and positive relationship with ROI ( $r = .190$ ,  $p = .016$ ), as measured by satisfaction levels in relation to current year's objectives. Furthermore, the key factor of human resource empowerment: "Total of all Managerial functions" had a significant and positive relationship with sales volume ( $r = .181$ ,  $p = .022$ ), as measured by satisfaction levels in relation to last financial year's objectives, and profit ( $r = .177$ ,  $p = .026$ ), ROI ( $r = .159$ ,  $p = .045$ ), and sales volume ( $r = .169$ ,  $p = .033$ ), as measured by satisfaction levels in relation to their major market competitors' objectives. The findings of the present study are consistent with previous studies on human resource empowerment and business performance, in tourism and hospitality industry (Ottenbacher et al., 2006; Pereira-Moliner, Claver-Cortés, and Molina-Azorín, 2010), and show that the level of empowering style which managers exercised in five-star hotels is related to the hotels' performance. The present findings add credence to the argument that human resource empowerment is a major factor for tourism and hospitality business activity, because it may contribute to the viability and increased profitability of service sector such as tourism and hospitality industry (Papaioannou, et al., 2012).

## RESEARCH LIMITATIONS

The study was delimited to a questionnaire designed to collect data regarding human resource

empowerment according to Vogt and Murrell (1990).

The following were acknowledged as the limitations of the study:

- The honesty, accuracy, and objectivity of the respondents when completing the questionnaire
- The respondent's level of understanding of the empowerment vocabulary.

Follow-up studies should be done to the same sample in three to five years to investigate possible changes in the utilization of the human resource empowerment process. Areas of further research could also include measuring the impact of human resource empowerment on the satisfaction and loyalty of customers.

## ORIGINALITY/VALUE

This study is useful in extending the concept of human resource empowerment to the tourism and hospitality industry. The study will be useful in helping managers to their further understanding of the human resource empowerment process in their respective organization.

**Keywords:** *Human Resource Empowerment, tourism and hospitality industry, five-star/luxury hotels.*

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## AMBIENT OUT-OF-HOME MEDIA FROM A MEDIA PROFESSIONAL STANDPOINT: INNOVATIVE OR INTRUSIVE?

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### ABSTRACT

There has been a significant growth in the use of alternative media to retain consumers' affection due to an increasing concern about consumers' resistance and skepticism towards advertising and multi-competition among companies aiming to increase the market share of their brands. Ambient out-of-home media is considered a special type of alternative media and refer to the use of innovative and unexpected context clues and objects in the environment as advertising medium to surprise and obtain engagement from very specific audience profiles. Currently there exist no guidelines to assess ambient out-of-home media when planning a campaign in an emerging context. By reviewing the literature, illustrative cases and obtaining insight from experienced media professionals this study offer guidelines on the qualitative and quantitative values for using this media format in practice. The unique contribution of this study is that it is one of the first to explore ambient out-of-home media from a media professional viewpoint. From a practical perspective, the guidelines and cases presented in this study can assist marketers, advertisers, and brand managers in understanding the unique strengths and limitations of this innovative and cost-effective contemporary OOH advertising media format.

### FUNDING

This work is based on the research support in part by the National Research Foundation of South Africa, Grant: 99338.

**Keywords:** *ambient out-of-home media, out-of-home adverting media, qualitative empirical study, emerging context*

## ORGANIZATIONAL STRESS IN PROFESSIONAL GARDENERS: HAPPIER AND HEALTHIER?

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### ABSTRACT

Much has been written concerning the benefits of gardening and the alleviation of stress. It is widely accepted that gardening has a therapeutic role (Kaplan, 1973; Relf, 1979; RHS, 2014). Little if anything has been explored in relation to gardening professionals, yet stress is a major barrier to performance and wealth creation (Robertson and Cooper, 2011; HSE, 2015). This empirical research investigates and compares stress levels in professional gardener/managers with other occupations. It aims to discover whether professionals engaged in the business sector of gardening experience lower levels of stress compared with other occupations. This sector contributes a significant and growing proportion of the UK workforce. It also represents a significant contribution to many European countries especially the Netherlands, Italy, France and Greece. This research contributes to the established data for other professions and provides knowledge in a neglected area of management discourse. The definition of Stress used by this survey is based on that given by the U.K. Health and Safety Executive “*The adverse reaction people have to excessive pressure or other types of demand placed on them*”. (HSE, 2015, p.2)

The Methodology employed a mixture of quantitative and qualitative approaches including semi structured interviews, case studies and the interrogation of data /reports concerning other occupational sectors. It also used the ASSET™ evaluation tool to survey, identify and examine sources and levels of pressure across the sample and furthermore, to provide normative data against which an organization or sector can be compared.

The ASSET™ model considers linkages made between: Work relationships, Work-Life Balance, Overload, Job Security, Control, Resources and Communication, Pay and Benefits ( entitled “Enablers and Barriers”) with the commitment of the Employee to the Organization and the Organization to the Employee (“Attitudes”). These work aspects then feedback directly to the physical health and psychological wellbeing of the individual (“Health”).

The sample size consisted of 700 professional gardeners from across the UK. Questionnaires were sent through the post after consultation with the Chair of the Professional Gardeners Guild who indicated that many members seldom used e mails. The response to the postal questionnaire was a gratifying 80%.



Initial findings were interesting and in some cases surprising. The anticipated results of tensions and differences between the therapeutic nature of hobby gardening and professional gardening were not in evidence. The level of concern about job security was low compared to that in most organizations. The expectation of stress caused by lack of job security in this sector and also by challenging working conditions were also lacking. The discussion explores the possibility that the lower stress levels compared to other occupations occur because of the personality type of professional gardeners. A personality “type A versus B” discourse (Eysenk, 1990, De Botton, 2005). The level of concern about pay and benefits is similar to that reported in most organizations. Inequity may often cause poor performance (Rowland and Hall, 2013).

Compared to other organizations, respondents in this group were positive about aspects of the job. This scale includes factors such as physical working conditions, type of tasks and the amount of satisfaction derived from the job itself. These results suggest that respondents in this group enjoyed the work that they did. High levels of job satisfaction are important in people’s overall enjoyment of work and higher job satisfaction levels is concomitant with higher levels of job performance and higher levels of psychological well-being (Rowland and Hall, 2013). The evidence of high emotional resilience in this sample may lead practitioners to find best practice to aid in resilience training in other sectors (Robertson et al., 2015).

Respondents were committed to the organization at a similar level to people in most organizations, as were the organizations themselves to the individuals questioned. These results indicate that people are as likely as most to put themselves out for the organization and to be prepared to take on extra work and responsibility.

Finally, Work-life balance was seen positively compared to how it was seen in other organizations. These results indicate that respondents generally appeared to have workloads that they found manageable and that work overload was not a source of concern for them. In particular the area of technology overload was explored and indeed this area was the lowest rated area out of the 62 areas investigated. In conclusion it would seem that these professional gardeners are indeed happier and healthier in comparison to other sectors in the UK workforce.

Work related stress, depression and anxiety account for 35% of work related ill health and 43% of working days lost in the UK during 2014/15 (HSE, 2015). This research contributes a hitherto unknown aspect of a working sector of the UK economy. It contributes knowledge and understanding and may well be transferrable in a European context. In terms of practice it enables organizations to now assess

the risk of stress in their workforce across a wide range of factors; and consequently may represent a step in the more effective management of stress in the workplace.

**Keywords:** *Stress, Performance, Organizational Behaviour, Gardening, Locus of Control, Health, Wellbeing,*

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## CURRENT CHALLENGES IN PLACE MARKETING IN NORTH-WEST ENGLAND

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### ABSTRACT

Many authors believe that the marketing concept and the study of marketing emerged during the twentieth century (e.g. Jones and Tadajewski, 2015, Kumar, 2015, Tadajewski, 2009, Vargo and Lusch, 2009), but others have claimed that the marketing of places has a much longer history. Ashworth and Voogd (2004) refer to the very early example of Leif Erickson who, some 2,000 years ago, named a very large and newly-discovered island as 'Greenland', in order to project a favourable and attractive image to prospective visitors and potential settlers. Bath is a historic city in South-West England and Heeley (2015) argues that Richard 'Beau' Nash who was appointed as Bath's Master of Ceremonies in 1705 established the embryonic format of the world's first destination marketing organisation. Nash's local government department was charged with being 'responsible for organising entertainments and diversions' and he also promoted the town and personally welcomed visiting dignitaries (Heeley, p.20).

The governance of place and destination marketing in the England is currently undergoing significant change. To some extent this parallels international changes in practice but it is primarily the result of austerity measures and current government policy. At the heart of this government policy is the intent to very significantly reduce the public funding of destination marketing activity and to encourage the private sector to take on this responsibility. This begs the questions of whether or not the private sector is willing and/or able to take on such a responsibility. The consequences of this policy change and the future of destination marketing in England and in one particular sub-region of England is the subject of this study.

Although a substantive body of literature exists with regard to the broad subject areas of destination marketing/management, place marketing, place promotion and place and city branding etc., there is a relative paucity of published empirical data to support theory building in this academic sphere and very little attention has been directed towards the existential threat that destination marketing/management organisations presently face with regard to their core funding.

The research (which is still in progress) is focused on the geographical sub-region of Cheshire and Warrington which is located in North-West of England. The visitor economy in Cheshire and Warrington generates around £2.5 billion per annum and it supports the employment of a large

number of people ([www.marketingcheshire.co.uk](http://www.marketingcheshire.co.uk)). The study adopts an interpretivist stance and analyses qualitative data derived from semi-structured interviews with destination marketing stakeholders and practitioners. The research question that the study seeks to answer is: 'How can a place marketing organisation engage with its stakeholders in order to operate effectively in circumstances of reduced government support?'

To date 15 semi-structured interviews have taken place and these have generated some 35,000 words of data. Interview subjects have included the chief executive of a national tourism organisation, 8 chief executives of destination marketing/management organisations, one partnership manager, one board member of a destination marketing/management organisation, one senior and experienced civil servant, one executive chairman of a large retail organisation and two managing directors of major tourist attractions. The interviews have been conducted at locations throughout England and all the interview subjects either led destination marketing/management organisations which promote places where the visitor economy generates significant economic activity or else they were key stakeholders in the destination marketing/management of Cheshire and Warrington. The intention is to conduct a number of further interviews with more key stakeholders in the destination marketing/management of Cheshire and Warrington. These interview participants will be sought from the private sector.

The financial challenge has figured strongly in most of the interviews to date and the creation of new funding streams has emerged as a central issue. Other consistent themes that have featured are the poor survival prospects for destination marketing/management organisations with a weak or undifferentiated product proposition, the relative dominance of large and established players in the form of the UK's best known cities, the importance of the role of leadership, the difficulty of demonstrating return on investment, the short-termism of the private sector and the lack of one single uniform approach that can be applied to all destination marketing/management organisations.

The research is expected to make a valuable contribution to the subject area of destination marketing/management in several ways with respect to both theory and practice. Firstly, it will contribute rich empirical data to a domain that is currently underdeveloped. Secondly, it is expected to lead to the development of a conceptual model which, after being applied and tested, will describe the optimum configuration and governance arrangements for a particular destination marketing/management organisation. Finally the research will contribute to practice by offering valuable insight into the perceptions of stakeholders in the destination management process.

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## ECOSYSTEM-BASED BRANDING CONCEPTION IN THE HEALTH AND NUTRITION MARKET

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### ABSTRACT

This explorative study was researching how an ecosystem of strategic partners can be used to successfully promote a consumer-brand in the health and nutrition market. Those ecosystem partners are not necessarily within the supply chain and could vary among different target consumer groups. The brand is visibly present for consumers whereas the brand owner sells the branded product as ingredient to business-to-business-customers that produce and sell the final product to consumers. The ecosystem of strategic partners aims to promote the brand directly to consumers in a trustworthy manner and could, therefore, help to convince the business-to-business-customers to purchase the branded product as ingredient.

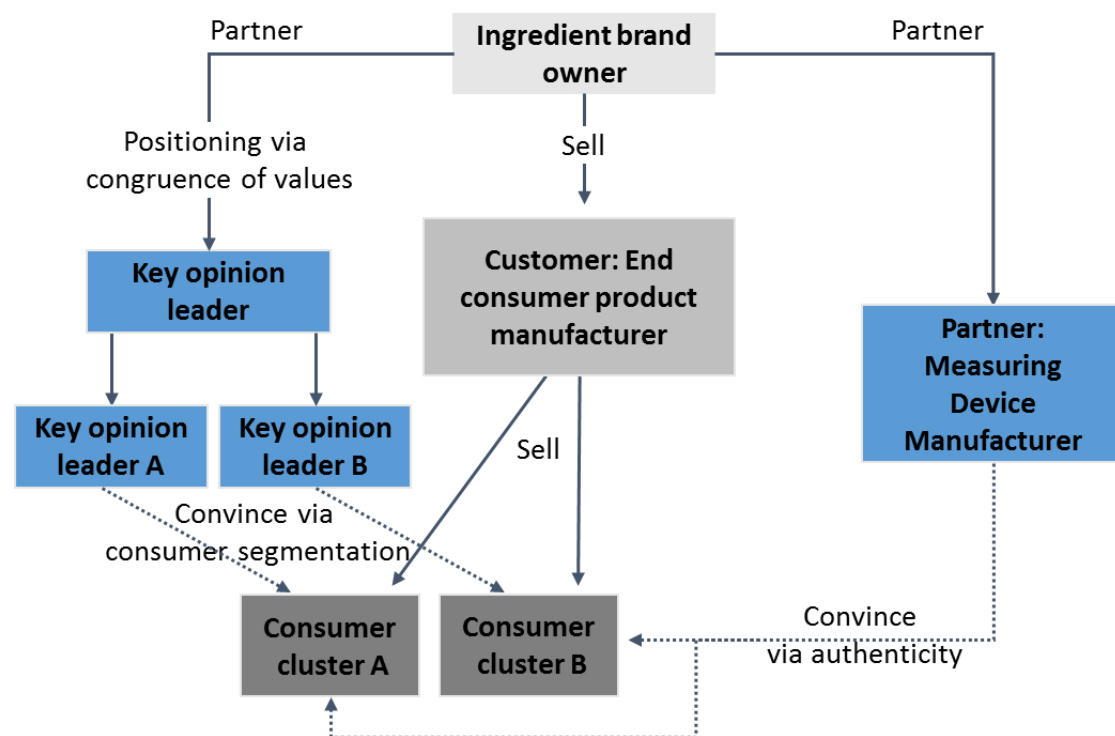
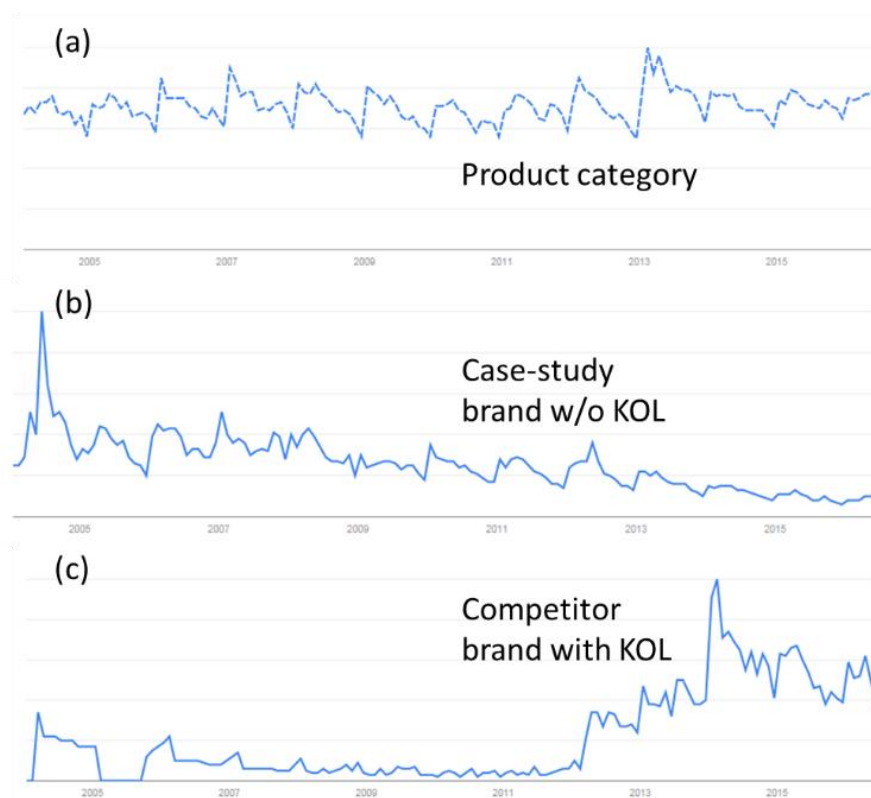


Figure 1: Framework of brand-promoting ecosystem in the health and nutrition market, own illustration

Through the increasing importance of social media channels and the interactive character of them, brand promoting concepts like brand communities and co-promotion are assessed and adjusted. The theory of an open brand (Mooney, 2008) is thereby developed and adopted for brand owners that sell

the branded ingredient not directly to consumers. Following this theory, consumers can become part of an iterative and interactive brand building process and, therefore, influence the brand development. The core hypothesis of the research project states that consumers' trust in brands in the health and nutrition market has decreased, especially since the rise of online media. The research was conducted with a combination of quantitative and qualitative research methods (triangulation). The quantitative research part collects data through netnographic (Kozinets, 2002) research within online communities and tests how brands are perceived (in terms of interaction) by consumers. In order to validate the findings, two different media channels (Google and Twitter) were investigated.



**Figure 2: Google trend analysis**

The Google trend analysis (figure 1) shows that the use of a key opinion leaders for brands in the health and nutrition market can help to increase consumers' interaction with the brand, as the competitor brand (c) started to cooperate with a key opinion leader in 2012. In comparison, the brand assessed within the research project (case-study brand, curve (b) reveals low interaction levels and has not been using a key opinion leader. To preclude external effects which are not addressed by the key opinion leader issue, the product category was researched to prove that the overall consumer interaction with the product category remained stable throughout the observational period.

As second netnographic research approach an analysis of Twitter data was conducted. The brand, which was subject of this study, was compared to the before named competitor brand regarding the

amount of mentions in Twitter throughout a certain period of time (figure 2). The results of the Twitter data prove the findings of the Google trend analysis meaning that key opinion leaders can increase the level of consumer interaction for a brand in the health and nutrition market. Additionally the results of the analysis suggest that the impact of key opinion leader usage in brand communication could vary depending on the key opinion leader himself.

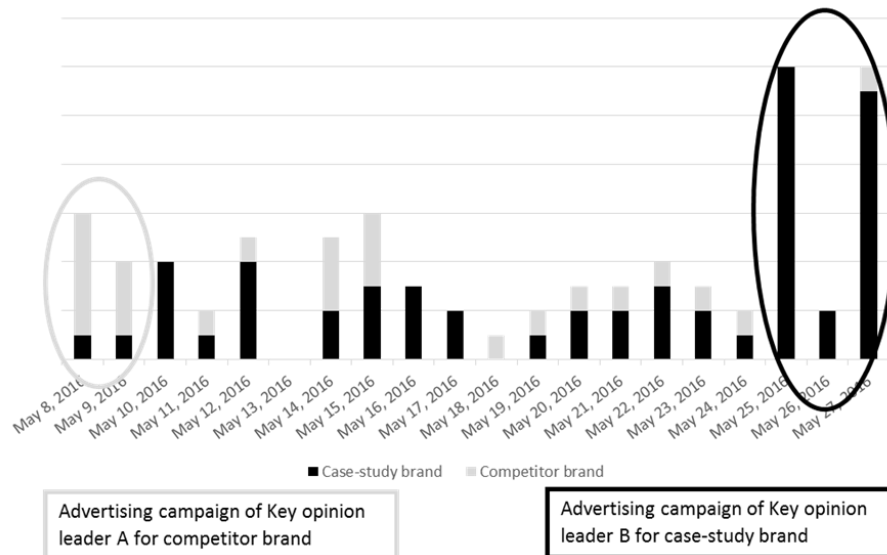


Figure 3: Twitter analysis, own illustration

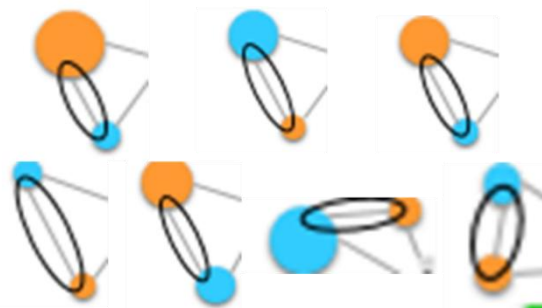


Figure 4: Matching of Measurability and Authenticity, own illustration

The qualitative part is conducted through semi-structured expert interviews in order to validate and develop the finding of the netnographic research. Seven of ten interviewed experts were linking a brand's *authenticity* (as sub-category of consumers' trust in branded products) to *measurability* (figure3). Taking this into account, measuring devices seem to play an essential role for branded products in the health and nutrition market in order the increase consumers' trust in the branded product's efficacy and the perceived authenticity of the brand. Partnering with a measuring device player may become essential for brand owners in the health and nutrition market as they seem to have an influence on consumers' brand perception. The changing role of consumers becoming part of brand development processes and the increasing influence of additional, not value chain-integrated



players like device manufacturers, needs to be further researched. Brand managers and practitioners in the health and nutrition market need to be aware of the issues that decreasing brand trust of consumers is causing. Additionally they should seek for suitable partners like device manufacturers to provide consumers a solution that is beyond the solitary selling of branded ingredients to ensure future success for their respective brands.

**Keywords:** *Ecosystem, Branding, Trust, Partnership, Healthcare, Consumer, B2B marketing, B2C marketing, Modularization, Dynamic*

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## ATTACHMENT ORIENTATIONS AS PREDICTORS OF ABUSIVE SUPERVISION IN THE WORKPLACE AND ITS CONSEQUENCES.

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### ABSTRACT

The purpose of the current study was to investigate the role of supervisors' and subordinates' attachment orientations in the prediction of abusive supervision and its negative consequences.

The study was undertaken in 31 teams working in geographically distributed units of an organization providing mental healthcare services. The questionnaires were completed by 235 subordinates and 31 supervisors comprising dyads of subordinates and supervisors. The questionnaire administered to supervisors included self-report scales assessing their attachment orientations. The questionnaire administered to subordinates included the same scale on attachment orientations, as well as, scales tapping frequency of abusive supervision, well-being, burnout, job satisfaction and questions about intentions to quit and absenteeism.

A series of HLMs were employed. As predicted findings indicated that subordinates' evaluations of abusive supervision were positively related to their anxious attachment as anxious individuals' chronic worries and anxieties with regard to relationship partners were possibly transferred into their relationship with their supervisor, leading to the negative evaluation of the relationship or to actual abusive behaviors from a supervisor who could not empathize with subordinates' anxieties. As predicted, subordinates' attachment avoidance was associated with consequences of abusive supervision, lower well-being, and higher burnout scores. The results also revealed that the links between subordinates' attachment orientations and wellbeing were moderated by their supervisors' attachment orientations. The negative association between subordinates' attachment insecurities and well-being was significant only when supervisors scored relatively high on the other attachment scale, possibly reflecting the negative implications of a mismatch of relationship expectations in a dyad.

**Keywords:** *abusive supervision, attachment orientations, organization, healthcare.*

## **HOW EUROPEAN TIER-ONE AUTOMOTIVE SUPPLIERS EVALUATE AND SELECT EFFICIENT MARKET ENTRY MODES TO INDIA**

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### **ABSTRACT**

This article analyses the research problem of how European tier-one automotive suppliers' (ETOASs) evaluate and select efficient market-entry modes to develop emerging growth markets using India as the example country market. The study is based on the conceptual framework of the revised Uppsala internationalisation process model (Johanson & Vahlne, 1977; Johanson & Vahlne, 2009) and the notion that international market development is an integrated part of strategic management to facilitate sustainable and profitable growth (Chandler, 1962; Andrews, 1987; Porter, 1999; Mintzberg, 2003; Wheelen & Hunger, 2004; Glowik, 2009; Kutschker & Schmid, 2011; Wheelen & Hunger, 2015). The research questions will be answered using a multiple-case study research design (Yin, 2014) with qualitative, in-depth, face-to-face, semi-structured interviews with 18 subject-matter experts and additional sources of evidence. The research results show that ETOAS, that use a structured market-entry process, would enter the Indian market faster, with less risk, and be more profitable. This proposed market-entry process consists of four steps and seven different integration levels.

### **INTRODUCTION AND STATEMENT OF THE RESEARCH PROBLEM**

Original equipment manufacturers (OEMs) and European tier-one automotive suppliers (ETOASs) are driven by globalisation and the continuously changing automotive market (AM) and its trends to promote an internationalisation of sales and production (Fahrenschon et al., 2015). This result in pricing pressure in all areas of the automotive industry (Ebel & Hofer, 2014). Through the expansive model policy prevalent in the past years, OEMs have been forced to outsource large parts of their value chain towards competent ETOASs (Wagner, 2015), hereby internationalising with them (Ebel & Hofer, 2014). Wilhelm et al. (2016) describe this changed functioning of ETOASs as the double agency role. The positioning of ETOASs in the value chain has, therefore, been changed and most are now more than just suppliers (Fahrenschon et al., 2015). Through this change arises further growth potential for ETOASs because of new cooperation models, such as networks or partnerships along the value chain (Lichtblau & van Baal, 2012; Ebel & Hofer, 2014; Wagner, 2015). In particular, key markets gain more relevance with the possible development of cost-optimized components and systems (Pfeffer & Harrer, 2011) and an increase of sales volumes (Wagner, 2015). In this abstract, India will be considered as the key market for market entry by ETOASs. Vehicle production in India has more than doubled over the

past 10 years, from 1.4 million units in 2005 to 3.5 million units in 2014 (Funda, 2014; IHS Automotive, 2015; Ebel & Hofer, 2014). Automotive analysts expect vehicle production in India to grow in the medium term and reach six million by 2020, given a continuing surge in demand for new vehicles and the growing working population and rising economy of the country (IHS, 2015). Based on this development, India is one of the global growth markets for ETOASs (Funda, 2014), and in-depth localisation is the key for every ETOAS to remain competitive in the local market (Ebel & Hofer, 2014).

## **PURPOSE AND ORIGINALITY OF THE STUDY**

The purpose of this study is to examine how ETOASs could enter the Indian market more efficiently using the revised Uppsala internationalisation process model (Johanson & Vahlne, 1977; Johanson & Vahlne, 2009). The originality of this study lies in the four-phase market-entry model (Neubert, 2011; 2013a; 2013b) with seven integration levels designed according to the Uppsala internationalisation process model (Johanson & Vahlne, 1977; Johanson & Vahlne, 2009) for the specific requirements of ETOASs.

## **LITERATURE REVIEW AND THEORETICAL FRAMEWORK**

The current research status may be divided into two major key words of market-entry research: internationalisation theories and market-entry modes. This multiple-case study uses the revised Uppsala internationalisation process model (Johanson & Vahlne, 1977; 2009) as a theoretical framework. According to the concept of 'liability of outsidership' (Johanson & Vahlne, 2009), the attractiveness of a new foreign market is mainly determined by an existing client network (Neubert, 2015; Neubert, 2016a), which consists of contacts with global and local OEMs. The network learning ability (Neubert, 2016b) in the sense of the ability to develop new client contacts is especially important in oligopolistic markets, because the acquisition of new local and other international clients is the key driver of market attractiveness. Market-entry modes in the sense of the establishment chain (Johanson & Vahlne, 1977) include, for example, the four-step model of Neubert (2011; 2013a; 2013b) and the stepwise market-entry model of Waldkirch (2013). The latter model might be used by ETOASs such as direct export; joint ventures (JV) and strategic alliances (SA); wholly owned subsidiaries (WOS) including production, applied research and sales/marketing (build strategies); and merger and acquisitions (M&A) operation (buy strategy).

## **RESEARCH QUESTIONS**

The purpose and the problem statement of this study have led to the main research questions (RQs).

RQ1: Which is the most appropriate market-entry strategy (MES) into the Indian market for ETOASs?

The four secondary research questions (2–5) should explain the main research question further.

RQ 2: Which are the objectives of an ETOAS that has gained market entry into India?

RQ 3: Which of the four market-entry modes—export, joint venture (JV), wholly-owned subsidiary (WOS) or (M&A)—is best suited for the market entry of an ETOAS into the Indian market?

RQ 4: Which location should be preferably chosen in India for a WOS, JV or M&A as a market-entry mode?

RQ 5: What types of reactions could be expected of competitors in case an ETOAS decides to enter the Indian market?

## METHOD

The purpose of this study forms the basis for the research method adopted. This study uses a multiple-case study research design to answer the explanatory research questions (Yin, 2014) using different sources of evidence to facilitate triangulation. According to Hennart (2014), a qualitative comparative case study research would help to answer the research question. In contrast to an experimental design or a survey, a multiple-case study has more flexibility (Stake, 1995) and allows an in-depth analysis of a complex research problem (Yin, 2014) within a highly contextualized environment (Rosenberg & Yates, 2007), and a comparison between different cases (Baxter & Jack, 2008; Eisenhardt & Graebner, 2007). The primary source for data collection is qualitative, semi-structured, in-depth, face-to-face interviews with subject-matter experts (SMEs) (Yin, 2014). Other sources of evidence include, for example, a literature review of market-entry modes (Villa, Rajwani, and Lawton, 2015) and data of the Indian market derived from different sources; internal data; and experiences of automotive suppliers, mechanical engineering suppliers and universities with specialisation in internationalisation of Swiss and European companies towards Asia.

## SAMPLE

The purpose of this study also forms the basis for the sampling strategy. This study uses a purposive case-selection strategy (Seawright & Gerring, 2008) to generate a representative sample (Seawright & Gerring, 2008), with typical (Gerring, 2007) and successful examples (Glowik, 2009) of the total population. According to Eisenhardt (1989) and Yin (2014), this sampling strategy produces a statistically representative sample, if at least six to 10 cases are selected. This study uses a sample size of 18 cases to allow better triangulation (Flick, 2008) of data and to strengthen the results of the whole

study (Yin, 2014). The SMEs are CXOs, Head of X, directors, professors, consultants, salespersons, product specialists and supply-chain and project managers of an ESAI who have expert knowledge in international management, the Indian market and/or specific European enterprises.

## RESULTS AND FINDINGS

### *ETOASs should pursue cost and strategic target motives with a market entry to India*

Eighty-three percent of the SMEs consider cost and strategic target objectives as very important. They underline the fact that a production facility in India will strengthen the competitiveness and bargaining power of an ETOAS's global production portfolio (Hausmann et al., 2009; Neubert, 2013a; Neubert, 2013b) and its global client network through more diversification. Four SMEs agree on a point; 'The objectives of market entry in India are mostly driven by cost motives and increased profit margins arising from a low-cost production and a product quality based on local market standards'. One SME further adds, 'The absence of India in the production locations portfolio of an ETOAS in the near future signals a lack of global competitiveness and bargaining power'. Given low labor costs, India also offers an interesting procurement market (Holtbrügge & Friedmann, 2011) with potential cost savings of up to 30 percent (Augustin & Durst, 2005). One SME suggests, 'This 30 percent declines, in reality, to approximately 20 percent'. Twelve SMEs mention that cost and network advantages will protect the ETOAS against competitive actions of other ETOASs (Hungenberg, 2014). An SME says, 'Competitors will react aggressively to the market entry of another ETOAS and defend the existing local network, in which they refer to 'weaknesses' of the future competitor'. Three SMEs further add, 'The competitors would increase the price pressure in the market if an ETOAS enters the Indian market'. Moreover, an SME reasons, 'Competitors will use contracts over a certain time period for existing industrial machines'. This creates switching costs for existing OEMs in the case of a potential ETOAS change.

### *ETOASs should enter the Indian market using a four-phase entry model with seven integration levels*

SMEs recommend applying a four-phase entry model with seven integration levels (Figure 1, in the Appendix), which consists of the research model of Neubert (2011; 2013a; 2013b), Waldkirch (2013) and the establishment chains of Johanson & Vahlne (1977; 2009), for entry to the Indian market. Fifteen SMEs suggest that the first step of a market-entry decision should be to prepare a European project team (EPT) to supervise and lead the activities in India. The soft-skills of the EPT are the key factors for the implementation of a successful market-entry strategy. One SME describes, 'The so-called Soft-Skills are key for the implementation of a successful market-entry strategy in India, and if the soft-skill competences of the EPT is inadequate, the market entry will very probably fail'. Along the same line, another SMEs states, 'The biggest challenges in market entry to India, are the cultural disparities



between the home and foreign markets; therefore, intercultural competence is vital for a successful market entry'. In the second phase, the EPT should conduct a market- and feasibility study (Walldkirch, 2013) and visit fairs in India to obtain information regarding the industry, customers, suppliers and competitors' products (Walldkirch, 2013). The establishment of a representative office would allow the gradual transfer of resources towards India (Holtbrügge & Friedmann, 2011). A branch office is required if contracts are concluded or R&D activities are performed (Holtbrügge & Friedmann, 2011; Neubert, 2011). In the fourth phase of the model, the market-entry mode will be executed through a JV, WOS or M&A. The last step is the market growth and expansion phase, which includes the acquisition and integration of other small competitors in the Indian market (Neubert, 2011). These findings are in line with the Uppsala internationalisation process model (Johanson & Vahlne, 1977; Johanson & Vahlne, 2009) because 10 SMEs recommend a gradual market entry to develop a local network and adapt to local market conditions. In this context, one SME says, 'At the beginning of market-entry activities, a European project team of expats that will lead the activities in India must be formed by the management of the ETOAS'. Another SME adds, 'In the first phase, a project team has to travel in India for approximately six months, with the objective of establishing a preliminary network of relationships'. Such a step is necessary because, it would be impossible for a manager to immediately set up offices and networks in India.

*ETOASs should enter the Indian market through WOSs in one of the automotive clusters*

Thirteen SMEs recommend establishing a WOS in India. This creates the possibility of full management control (Holtbrügge & Friedmann, 2011) and the implementation of a company-specific corporate governance system (Dehnen, 2012). This finding is in line with the research results of Johnson & Tellis (2008) and Holtbrügge & Friedmann (2011). An SME elaborates, 'A WOS as a market-entry form is preferable since it allows authority in decisions and independence from contracts; the bureaucracy that is created through a JV does not allow the same freedom'. An SME adds, 'A WOS in India would also allow independent decisions with specific Indian partners; in view of financial issues, for example, collaboration with an investment bank would be possible'. All 13 SMEs recommend locating the WOS in one of the automotive clusters (Holtbrügge & Friedmann, 2011; Bapat et al., 2012; Nazir, 2015) in the vicinity of this first important OEM client (Imsbach et al., 2012) because of the increasing integration of ETOASs in the value chains of OEMs and the possibility of creating synergies with the WOS of other network partners. Two SMEs further comment, 'ETOAS prefer to choose one of the four automotive clusters for their production facilities to be close to their clients'. 'Otherwise, the preferred selected production location of the ETOAS, could lead to outbound logistic costs that are too expensive for a specific OEM, and the selected production location would be classified as inappropriate'. One SME

describes, 'A functioning and intact infrastructure is essential for an ETOAS, especially in India; this is only available in one of the automotive clusters'.

The findings of this qualitative multiple-case study research project contribute to the field of research on international management because researchers will gain a better understanding of how ETOASs, which are highly integrated in the value chains of OEMs (Ebel & Hofer, 2014), evaluate and select efficient market-entry modes and processes to India. The findings of this qualitative multiple-case study research project contribute to managerial practice because they will help managers from ETOASs increase the efficiency of market entries especially to India.

**Keywords:** *Uppsala internationalisation process model; India; market-entry form; market-entry modes; joint venture; mergers and acquisitions; wholly owned subsidiary; automotive industry; tier-one supplier; strategic management; internationalisation; Switzerland; case studies; lean internationalisation*

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## APPENDIX

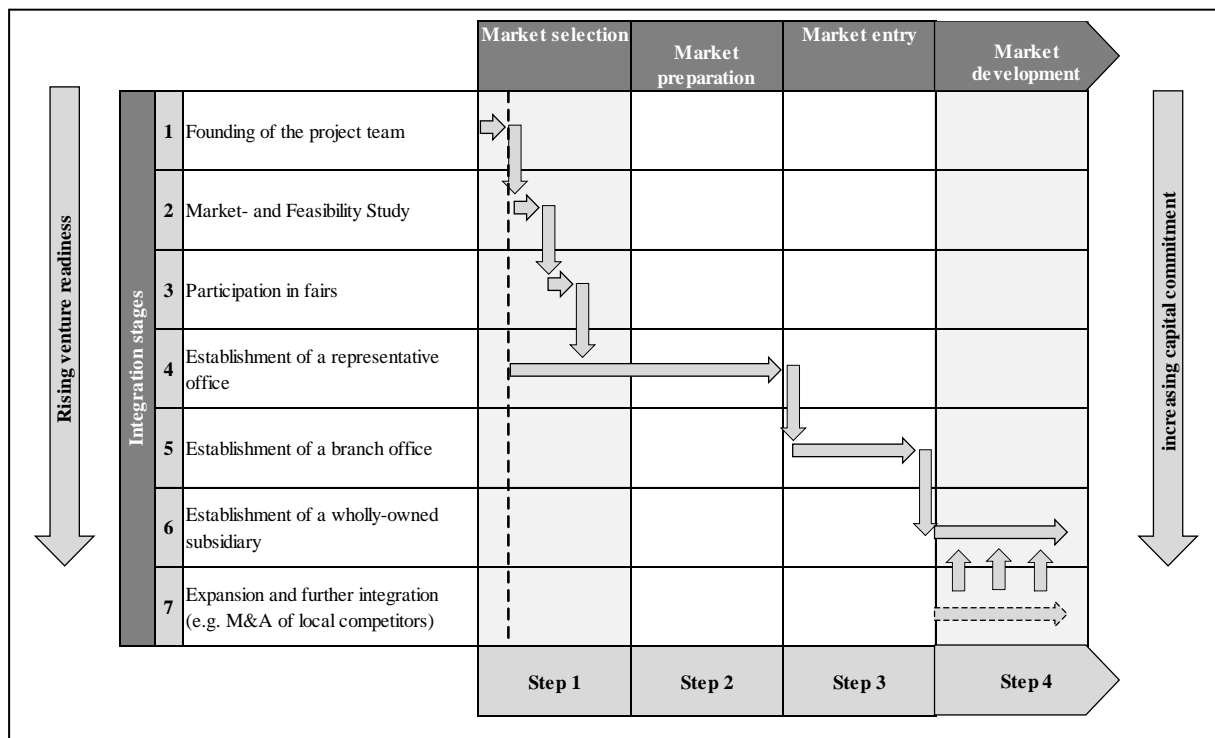


Figure 1. The four-phase entry model with seven integration levels of an Indian market entry, own presentation based on: Neubert (2011; 2013) and Waldkirch (2013)

## THE EFFECT OF AUDIT COMMITTEE CHARACTERISTICS ON EARNINGS MANAGEMENT IN INDONESIA BANKING INDUSTRY

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### ABSTRACT

Indonesian Stock Exchange (IDX) issued a circulation letter regarding audit committee. It is expected that audit committee help board of commissioners (BoCs) to analyze financial information, risk and internal audit. It help companies to achieve better corporate governance practice and provide better earnings quality. Nurhaida, a chairwoman of BAPEPAM-LK (Indonesia Capital Market and Financial Institution Supervisory), stress the importance of audit committee to reduce manipulation by listed firms. It is expected that audit committee able to constraint earnings management by companies. However, Nurhaida complain that internal governance structure, such as: audit committee, do not perform well and this condition provides opportunity for manager to manipulate investor. Audit committee is expected to help board of commissioners to monitor the management and provide better information quality. Therefore, this study investigates the effectiveness of audit committee on earnings management focus on banking industry. This study investigate the effect of audit committee characteristics: number of meetings, financial background, size and gender on earnings management. Sample of this research consists of 201 firm-years observations during 2006-2013. The result shows that number of meetings and financial background have positive effect of earnings management. This study find that size negatively affect earnings management. Smaller audit committee have better monitoring ability. Further, gender have no effect on earnings management. Thus, the study find that smaller audit committee size provide better monitoring.

**Keywords:** *earnings management, audit committee, number of meetings, financial background, audit committee size, gender*

# FACTORS SHAPING YOUNG TOURISTS ' INTENTIONS TO TRAVEL TO GREECE, ISRAEL AND PORTUGAL: UNIVERSAL OR IDISYNCRATIC PERCEPTIONS OF YOUNG GREEKS, ISRAELIS AND PORTUGUESE?

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## ABSTRACT

Tourism constitutes an important branch of economy, especially in countries experiencing economic crisis and harsh socio-political events. The current study compares the intention of young people from three different countries – Greece, Israel and Portugal - to travel to two selected destinations. For each country of origin the other two countries were the destination of interest.

This research examined the factors affecting young tourists' intention to travel to different destinations assuming that those determinants depend on the country of origin as well as on the destination country.

The sample comprised of 648 students: Israelis (277), Portuguese (200), Greeks (171). The research questionnaire was distributed in Israeli, Greek and Portuguese academic institutions in 2014.

The results indicate that over half of the Israelis intend to visit Greece or Portugal. The majority of the Portuguese anticipate visiting Greece, while only 32.5% expect to visit Israel. Among the Greeks nearly 50% intend to visit Portugal and do not intend to visit Israel.

The study showed that the main factors affecting the decisions of young Portuguese to travel to Israel were: the image of Israel, the perceived risk of traveling to a country with political unrest and the number of trips abroad. The main factors affecting the decisions of young Greeks were the perceived risk of traveling to a country with political unrest and Israel's image. Israelis' decision to travel to Greece was affected by their image of Greece; the Portuguese also took into account the perceived risk regarding economic situation. For Israelis, considering Portugal as a traveling destination was related to the destination's image. The Greeks were affected by the number of Facebook friends and the Innovation, Entrepreneurship and Digital Ecosystems

perceived economic risk. This research suggests that the socio-economic, political context of the country of origin and of the tourist destination plays an important role in young tourists' travelling-related decision-making.

**Keywords:** *Tourism management, Young tourists, destination image, Israel, Portugal, Greece*

## **RELIGION AND SERVICE QUALITY PERCEPTION OF HOSPITAL EMERGENCY ROOMS**

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### **ABSTRACT**

### **INTRODUCTION**

Patient satisfaction is a critical concept for researchers, practitioners, and administrators to understand because it is commonly used to assess quality of care and can predict a wide variety of health related-behaviors and outcomes. Many researchers have established demographic and health related correlates of satisfaction such as age and health status (Nguyen, 2002, Hall, 1990). The influence of religion on patient satisfaction in health system is rarely investigated.

The purpose of the current research is to examine the impact of religiosity on the perception of service quality in hospital emergency rooms. Recent researches have shown that higher religiosity is related to positive emotions, attitudes and behaviors (Harold et al, 2014) and that positive religious coping was associated with improved quality of life (QOL) and negative religious coping was significantly associated with worse QOL (Zamanian et al, 2015). Other research showed that atheists and agnostics tended to have worse outcomes in psychological functioning characteristics, social support relationships, and health behaviors (Hayward et al, 2016).

### **RESEARCH BACKGROUND**

A large and growing number of studies have researched the correlation between religiosity and quality of life (QOL). These studies have shown health benefits associated with religious involvement (Solan & Bagiella, 2002, Powell et al, 2003) and pointed to a direct relationship between religious involvement and spirituality and positive health outcomes, including mortality, physical illnesses, mental illness, QOL, and coping with illness (including terminal illness). Available evidence is generally consistent with the hypothesis that religiosity/spirituality is linked to health-related physiological processes including cardiovascular, neuroendocrine, and immune function (Seeman et al, 2003). Also, studies show that both positive and negative religious coping are associated with overall patient QOL and hence, may have an effect on health outcomes. Perhaps patients who experienced greater physical symptoms turned to religion more often for strength, comfort, and



guidance (Tharakeshwar et al, 2006). Studies also suggest that addressing the spiritual needs of patients may facilitate recovery from illness (Mueller et al, 2001, Cotton et al, 1999).

A few studies have examined the relationship between religiosity and patient satisfaction with health system service. Research conducted in the US showed that a high level of religious salience was significantly related to being very satisfied with one's health care, even after demographic, social and health variables were taken into account (Benjamins, 2006).

The purpose of the current research is to examine the impact of religiosity on the perception of service quality in hospital emergency rooms. The current research uses service quality scale (SERVQUAL) to measure the perception of service quality in hospital emergency rooms. Service quality (SQ) has been described as a multidimensional construct; the perceived discrepancy between expectation and performance along the quality dimensions (Parasuraman et al, 1994).

## RESEARCH HYPOTHESES

The current research suggests two related hypotheses. The first hypothesis suggests that those religious people, accompanying patients to hospital emergency rooms, rely on their faith and thus expect less from the medical staff in hospital emergency rooms in comparison to secular people. Thus, religious people that accompany patients will perceive that service quality in hospital emergency rooms is more "as expected" than those secular people accompanying patients to hospital emergency rooms. The second hypothesis suggests that as a result of the low expectations, religious people will perceive service higher than secular people in relation to the service quality of hospital emergency rooms.

## RESEARCH METHODOLOGY

The research here is based on 1002 Israelis that accompanied a patient to a hospital emergency room in the last 6 months before the study was conducted. The data was collected randomly from an internet panel that comprises more than fifty thousand people over the age of 18. The sample consists of 50% male and 50% female, with 55% Secular, 23% Conservative, 14% Religious and 8% Ultra-Religious.

The measure of the service quality scale (SERVQUAL) with its five subscale components (reliability, assurance, empathy, response, tangibles) was adopted from Munmun et al, (2015), which studied patients' evaluation of the service quality of government homeopathic hospitals at West Bengal - India. The scale was modified to fit the measurement of service quality of hospital emergency rooms. Some of the changes rely on the wording of the original scale suggested by Parasuraman et al, (1994). All Items were questioned using a 10-point agree-disagree scale. This measure was found to be highly

reliable with a Cronbach's  $\alpha$  of 0.921. Expectations with regards to hospital emergency room service performance were measured on a 10-point agree-disagree scale by the question: "The treatment is as expected in a hospital emergency room."

## RESULTS

As hypothesized, Table 1 shows that religious people perceive the service quality of the hospital emergency rooms more "as expected" than secular people. In fact, religion is positively associated with perceiving hospital emergency room service performance "as expected".

Table1: Religion and Expectations of Service Quality

Religion	SQ "As Expected"
Secular	5.43
Conservative	5.37
Religious	6.41
Ultra-Religious	6.57
Total	5.64
F	8.198
Sig.	P < .001

The results in Table 2 support the second hypothesis. Those accompanying religious people perceive service quality in hospital emergency rooms higher than those accompanying secular patients. The "Assurance" component, of the service quality scale, shows the highest difference between religious and secular people visiting hospital emergency rooms. That is, religious people tend to trust that all that is happening in this world is decided by God and thus may believe that what the medical staff does is the best they can do under the circumstances and it is meant to be.

Table2: Religion and Perceptions of Service Quality

	SERVQUAL	Reliability	Responsiveness	Empathy	Assurance	Tangibles
Secular	6.12	5.97	5.45	5.96	6.29	7.04
Conservative	6.14	6.07	5.43	5.83	6.33	7.20
Religious	6.77	6.68	6.24	6.62	6.99	7.42
Ultra-Religious	7.33	7.21	6.45	7.13	8.02	7.99
Total	6.31	6.19	5.64	6.11	6.53	7.20
F	10.746	9.374	7.609	8.215	14.951	7.004
Sig.	P < .001	P < .001	P < .001	P < .001	P < .001	P < .001

## CONCLUSIONS AND IMPLICATIONS

As hypothesized, the results of the current research show that those accompanying religious people perceive service quality in hospital emergency rooms higher than those accompanying secular

patients. Is it because religious people tend to trust that all is happening is decided by God and it is meant to be or is it that religious people are more satisfied with all aspects of their lives? Are they more optimistic than others and thus are less critical and more forgiving about the service they get? In any case, the medical staffs in hospital emergency rooms need to be aware of the ways that religiosity may influence the medical care and the patient's decision-making and be more sensitive to their patients' needs.

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## A CONCEPTUALIZATION OF BRAND STATUS MODEL FOR SPORT CLUBS

Shuv-Ami, Avichai

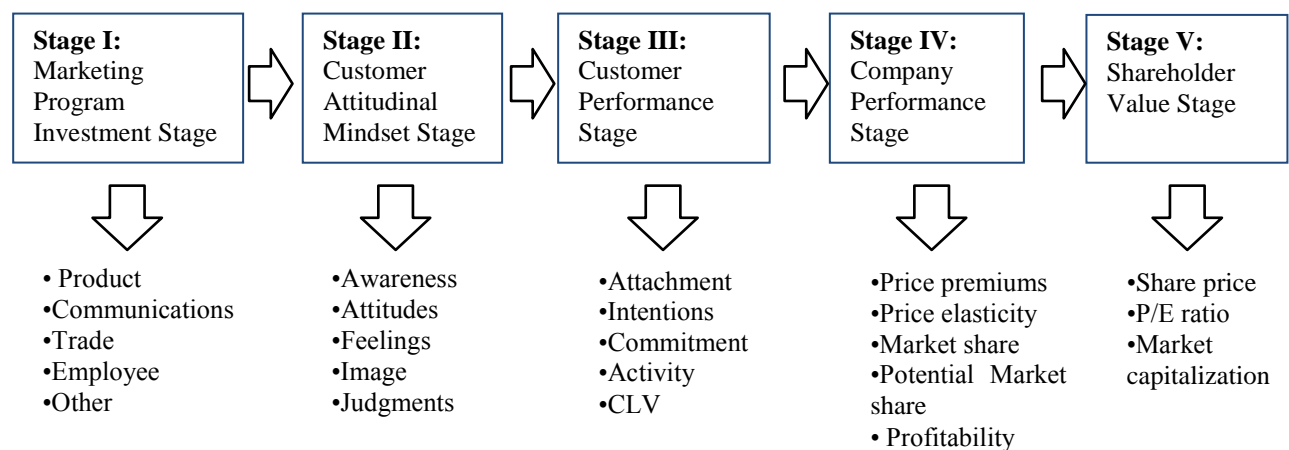
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### ABSTRACT

### INTRODUCTION

The current study defines “Brand Status” as a measure that examines the “health” and the strength of the brand in each stage of the brand value chain. The sum of the brand strength of the brand in each stage represents the total *Brand Equity Status Score* of the brand. The five-stage brand value chain adopted here is based on Shuv-Ami’s (2011, 2016) extension of Keller’s (2003a) model of brand value chain process (Figure 1). The purpose of the current study is to provide a model and a scoring system of Brand Status” for sport clubs.

Figure 1: The “Brand Value Chain”



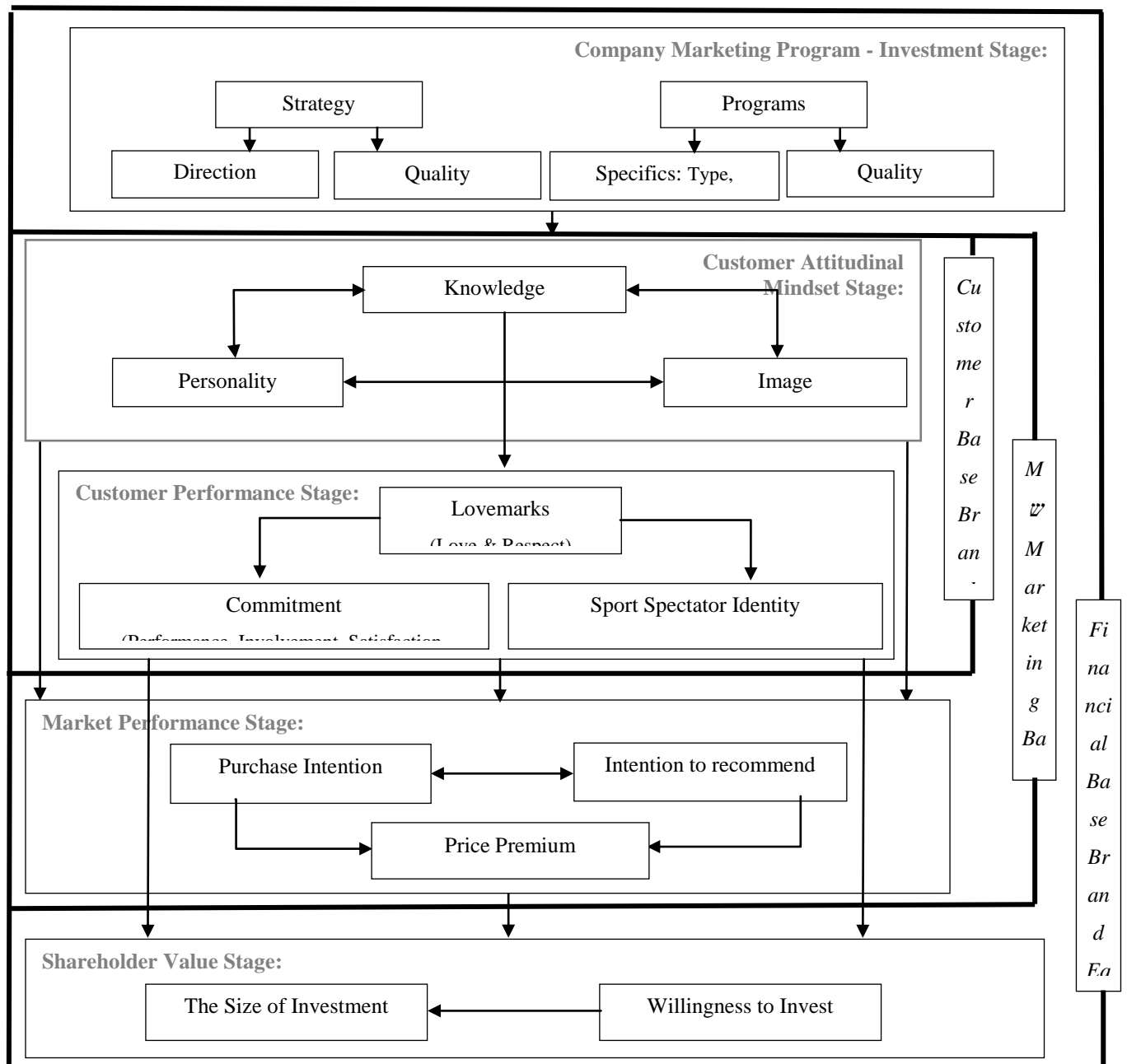
A review of the marketing literature shows that there is no one study that measure each stage and thus in understanding the process of the creation of brand value chain, including the financial value for the shareholders. The current study attempts to conceptualize a model that evaluate the strength of the brand in each stage each stage. The value score for that strength of each stage and a total score of all stages represents the status of the brand in the market.

### THE CONCEPTUALIZED BRAND STATUS MODEL

The theoretical foundation of the current model is based on Shuv-Ami’s (2011, 2016) extension of Keller’s (2003a) model of brand value chain process. The current conceptualization of *Brand Status* model draws constructs from Keller and Lehmann’s “Systems Model of Brand Antecedents and

Consequences” (Keller and Lehmann 2006), Keller’s (1993, 2001, 2004) Customer Base Brand Equity (CBBE) model, Aaker’s (1996) “Brand Equity Ten” model and Roberts’ (2004) “Brand Lovemarks” model.

Figure 2: The Conceptualized and Hypothesized Brand Status model



The conceptual model proposed here is presented in Figure 2 and has all five components the brand value chain. The “Customer Attitudinal Mindset Stage” and “Customer Performance Stage” measures the Customer Base Brand Equity (CBBE). The Company/Market Brand Equity includes the CBBE and the “Company Performance Stage”. The Financial Brand Equity is measured by the relationships between the “Marketing Program Investment Stage” and the “Shareholder Value Stage”.

## THE BRAND EQUITY STATUS SCORE MEASUREMENT

Similar to the brand equity models of Interbrand and BrandZ, the calculation of the brand equity value is based on the sum of the weighted parameters of the model. Thus, all parameters in each stage were weighted based on the beta value of each parameter on a regression analysis where the depended variable is part of the constructs of the next stage.

In order to calculate the “Customer Attitudinal Mindset Stage”, Lovemarks from the next stage will be used as a dependent variable. Price premium is the dependent variable to establish the beta values for the “Customer Performance Stage”. The betas for the parameters of the “Company Performance Stage” will use the size of the investment as the dependent variable. The following formula will be used for all of these stages.

$$SSVC = \frac{\sum_{i=1}^3 (*)}{3}$$

Where: VCSS = the Stage Score of the Value Chain

$n$  = the number of Performance Parameters

$Wbi$  = the weighted beta for the  $i$ 's Performance Parameter

$i$  = the  $i$ 's Performance Parameter

$V$  = the average score of the Performance Parameter

Calculating the Shareholder Value is different from the previous stages. Since the question for the sport fans in the current research was “how much you are willing to invest in your team?” the formula to calculate the club shareholder value is simply;

Shareholder Value (SV) = Average Fan's Investment X Number of Share Offered

If less than 100% of shares were offered, a relative calculation should be made. In the current study all 100% shares of the club were offered to the fans.

The total “Brand Equity Status Score” (BESS) is to calculate by the following formula. In this formula the first calculated stages are used as a reflation of the ability to generate in reality the investment size the fans said that they are willing to invest in their club. The average score of the first stages calculate here (that is now ranged from 1-10) is divided by a 100 and thus (is now ranged from 0.01-1.00) it is used as indicator of the strength of fans willingness to invest. As it is known from practical research (see for example the consumers' barriers in Sinovate model of brand equity) many barriers are there between the time fans state that they are willing to invest until the time they need to pay for the investment.

$$BESS = SV * \frac{\sum_{i=1}^3}{3 * 100}$$

Where: *BESS* = Brand Equity Status Score

*VCSS* = the Stage Score of the Value Chain

*SV* = Shareholders Value

*j* = 1-3 Stages of the Value Chain

*VCSS* = Relative Brand Equity Score

*FVCP* = Financial Value Chain performance

## CONCLUSIONS AND DISCUSSIONS

While the objective of the first part of the current study was to conceptualized a brand status model, the current part provide a measurement procedure that allows monitoring and thus responding to the changing status in each stage of the brand equity value chain. Monitoring brand status or “health” is needed in order to avoid the trituration of the brand equity.

*Monitoring Customer Attitudinal Mindset Stage* represents customers’ knowledge and perception of brand image and personality. Unsatisfactory brand position may need more and maybe different marketing communication strategies. Advertising, for example, may help in building brand knowledge, image and personality. Sometimes, using celebrity in advertising enhance brand image and personality. In sport clubs, the players and the performance impact club image and personality. *Monitoring Customer Performance Stage* represents the customer feelings toward the brand and reflects the consequences of the previous stage. Thus, building brand knowledge, image and personality may leads to a better position in the current stage of love, commitment and identification (Madrigal 1995, Delaney and Madigan, 2009). Nevertheless, marketing managers may use experiential marketing that makes games memorable events. People love sport because they enjoy it and remembering good times from games makes us feel good (Delaney and Madigan, 2009). The Stage of the *Company Performance* is influenced by the customer performance stage. That is, fans Lovemarks, commitment and identification influence their intentions to go to their team games, their willingness to recommend to other and to be willing to pay more for game tickets and the team merchandise. Still, marketing managers may influence directly this stage using sales promotion and enhancing the value of games by making them bigger events. However, promotional strategies may not enhance the willingness to pay more and thus it is essential for sport marketing managers to improve fans Lovemarks,

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# **THE ANTECEDENTS AND CONSEQUENCES OF LOVEMARKS, COMMITMENT AND SPORT: SPECTATOR IDENTITY AND DECISION- MAKING AMONG FOOTBALL CLUB FANS**

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## **ABSTRACT**

## **INTRODUCTION**

The purpose of the current study is to understand the decision making process that leads football fans to love and respect their team, to identify and be committed to this team, to go to their games and be willing to pay more for game tickets and merchandise of their football team. Today, professional football club organizations around the globe are managed as businesses that make profit from broadcasting media rights, game tickets and merchandises. All three sources of profits are mostly based on the size and enthusiasm of their fans to the club. Thus, it is crucial importance for football clubs to understand such decision making processes.

## **RESEARCH BACKGROUND**

The foundation for the conceptualization of the current decision making model of sport and football fans is based on Schiffman and Kanuk's (2004) tri-component model of attitude and Shuv-Ami's (2011, 2016) extension of Keller's (1993, 2008) model of brand value chain process. While Schiffman and Kanuk (2004) attitudinal model is dealing with consumers behavior decision making, the Keller's (1993, 2008) model is a managerial one. Thus, the decision making model is reflected in the managerial model and both are using the same constructs in understanding their processes.

The current study suggests that in the process of decision making of sport fans the "cognitive component" is encompassing constructs of the managerial stage of "customer mindset", the "affective component" is represented by constructs measured at the stage "customer performance outcomes" and the "conative or behavioral component" is dealing with constructs related to the managerial stage of "market performance outcome"

## RESEARCH HYPOTHESES

The purpose of the present analysis is to test a model that describes the antecedents and consequences of Lovemarks, commitment and Sport Spectator Identity in a decision making process of football club fans.

H1: Knowledge, personality and image will have positive effect on Lovemarks which in turn will have positive effect on commitment and Sport Spectator Identity and no effect on fans intentions, recommendations and price premium.

H2: Commitment and Sport Spectator Identity will have positive effect on fans intentions, recommendations and price premium.

H3: Knowledge will have positive effect on commitment and that commitment will have positive relationship with Sport Spectator Identity.

## RESEARCH METHODOLOGY

The empirical part of the research stems from a large survey of 1300 Israeli football fans. The data was collected from an internet panel that comprises more than fifty thousand people over the age of 18. Participants ages ranged between 17 to 81 with a mean age of 37.5 (sd = 14.4), 57% were males and 57% had an academic education.

*Knowledge* of the football team was measured using a question which drew upon three items regarding the history of the team and results of the matches. The *Lovemarks* scale was adopted from Shuv-Ami (2014, 2015). The *personality* scale implemented followed the five personality traits used by Aaker (1997). *Image* was measured using four items. The *commitment* scale was adopted from Shuv-Ami (2012). The seven-item measure of *Sport Spectator Identity* was developed from Wan and Branscombe (1993). *Recommendation* intention was measured using a modified Markey and Reichheld (2008) advocate measure (Net Promoter Scores – NPS).

All measured scales were on a ten point scale and found to be highly reliable with a high Cronbach's  $\alpha$ . Where: Knowledge's  $\alpha = 0.92$ , Image's  $\alpha = 0.83$ , Personality's  $\alpha = 0.83$ , Lovemarks'  $\alpha = 0.79$ , Commitment's  $\alpha = 0.95$  and Sport Spectator Identity's  $\alpha = 0.94$ .

## RESULTS

The findings show that commitment and Sport Spectator Identity have a mediating effect on the relationship between Lovemarks and fans intentions, recommendations and price premium. While the first model (when commitment and Sport Spectator Identity were not present), shows strong and significant link between Lovemarks and fans intentions, recommendations and price premium, in the

second model this link was unexpectedly significant but weak to intentions and recommendations and no link to price premium. As expected, Lovemarks have positive effect on commitment and Sport Spectator Identity. In turn and as hypothesized, commitment and Sport Spectator Identity have positive effect on fans intentions, recommendations and price premium. Also as expected knowledge has positive like to commitment and commitment is positively associated with Sport Spectator Identity.

## CONCLUSIONS AND IMPLICATIONS

This model shows the relative importance of Lovemarks, commitment and Sport Spectator Identity in a decision making process of football club fans. Surprisingly and unexpectedly, knowledge was found to be the most important construct in forming fan's behavior. Fan's knowledge about the history of football club and their current status affect Lovemarks, commitment, Identity, intentions and recommendations. It does not affect the willingness to pay more, since this decision is made if the fan is committed to the team. Understanding that, may lead football and sport teams to be more active in providing information about the history and legacy as well as current and relevant information of the club. Image of the club was also found to be linked to several constructs, but mainly to Lovemarks.

Purchase intention, commitment and Sport Spectator Identity explained 55% of the variance of the willingness to pay more. Image and knowledge affect Lovemarks which in turn affect commitment and Sport Spectator Identity. Thus, image and knowledge are critical drivers of fans decision making. Building such an image and knowledge can be done through advertising, engagement in social media and making games as experiential and enjoyable events (location, food, souvenirs and core products) (Watanabe et al, 2013, Wakefield and Sloan 1995) that they will enjoy remembering (Delaney and Madigan, 2009).

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# **THE IMPACT OF HARD TIMES: CONSUMERS AND THE ECONOMIC RECESSION**

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## **ABSTRACT**

The financial crisis of 2008 resulted in an unparalleled economic and financial recession in many countries. This crisis may have long lasting consequences upon consumer behavior. The literature suggests that, in addition to spending intentions, different dimensions of consumption behaviour including purchasing patterns, information search strategies and retail patronage decisions may change as a result of the recessionary mindset triggered by the economic downturn.

In this paper, we aim at understanding how may consumer behavior change due to the influence of these economic conditions. An exploratory study aimed at understanding how consumers are changing their purchase patterns due to the economic recession was carried out and is being analysed.

## **INTRODUCTION**

The financial crisis of 2008 resulted in an unparalleled economic and financial recession in many countries. This crisis, which has been characterized as “the worst economic crisis since the Great Depression, the first global recession in the new era of globalization” (Stiglitz, 2009, p. 281) has already had a radical impact in the business and market landscape ((Piercy et al. 2010) and may have long lasting consequences upon consumer behavior.

How consumers cope with the economic crisis remains a largely under researched issue (Alonso-Almeida & Bremser 2013; Bronner & De Hoog 2014). In fact, although the impact of the economic recession has been researched in some industries, in particular in tourism and in the hospitality sector (e. g., Alonso-Almeida & Bremser 2013; Eugenio-Martin & Campos-Soria 2014; Bronner & De Hoog 2014; Bronner & De Hoog 2012), studies focusing on how the recessionary mindset influences consumer decisions are still lacking.

Recently, several studies in tourism found evidence of economizing strategies in response to the crisis (Bronner & De Hoog 2014; Bronner & De Hoog 2012). However there may be other types of repercussions in how consumers behave. This suggests that different dimensions of consumption behaviour may change in addition to spending intentions.

In this research, we aim at understanding how may consumer behavior change due to the influence of these economic conditions. We carry out an exploratory study aimed at understanding how consumers are changing their purchase patterns due to the economic recession.

## **LITERATURE REVIEW**

There is a dearth of studies on the impact of the current recession on consumer behaviour from a marketing perspective, especially in what refers to empirical studies addressing the impact on consumers (Zurawicki and Braidot, 2005). However, the impact of the financial crisis that anteceded the present economic crisis has been object of some contributions (Perriman, Ramsaran-Fowdar, & Baguant, 2010; Mansoor & Jalal, 2011; Simon, 2009; Flatters & Willmott, 2009). Similarly previous crisis such as the oil crisis of the seventies, the Asian crisis of 1997-1998 (Ang, 2001) and the Argentinian crisis of 2001-2002 (Zurawicki & Braidot, 2005) have also been studied. More recently the impact of the economic recession has been researched in specific industries, in particular in tourism and in the hospitality sector (e. g., Alonso-Almeida & Bremser 2013; Eugenio-Martin & Campos-Soria 2014; Bronner & De Hoog 2014; Bronner & De Hoog 2012),

## **CHANGES IN CONSUMER BEHAVIOR**

The seminal work of Katona (1974) on behavioural studies of economic affairs has established the importance of psychological factors on consumers' spending and saving behavior in response to inflation and recession. This work recognized the human side of economic decisions as consumers' beliefs about the future affect their spending decisions.

Sharma (1981) identified voluntarily simplicity as the main reaction of middle class consumers to the stagflation of the late 70's. According to this author six core values characterized this movement: Material simplicity; Human scale, a preference for lower scale living and working environments; Concern for the appropriate use of technology; Self-determination, a need to regain control over one's life; Ecological awareness; and Personal growth, the desire to develop psychologically and spiritually.

Ang, Leong and Kotler (2000) studied strategies used by consumers to face the Asian economic crisis and consider that the reactions and adjustments of the consumers can be the following: General reactions (Reduce consumption and wastefulness; More careful decision-making; More search for information); Product adjustments (buy necessities rather than luxuries; Switch to cheaper brands and generic products; Buy local rather than foreign brands; Buy products in smaller packages); Price adjustments (Emphasise product life cycle costs - Durability and value for money; Emphasis on cheaper prices); Promotion adjustments (More rational approach to promotions; Reduced attraction to free gifts; Innovation, Entrepreneurship and Digital Ecosystems

Preference for informative rather than imagery-based advertisements); Shopping adjustments (Increased window shopping; Preference for discount and neighbourhood stores; Fewer end-of-aisle impulse purchases).

Zurawicki and Braidot (2005) consider two generic categories of means to cope with the crisis: Reactive and proactive. Reactive actions aim at “smoothing consumption” (Zurawicki and Braidot, 2005, 1101) while proactive actions directly dealing with diminishing income.

New trends in consumer behavior may emerge or reinforce resulting from crisis. According to Flatters & Willmott (2009) four trends are being accelerated by this recession: consumer demand for simplicity, a call for ethical business governance, a desire to economize and a tendency to flit from one offer to another. Additionally, the authors consider that four other trends will slow down as result of the economic crisis: green consumption, a decline for respect for authority, ethical consumption and extreme experience-seeking.

Piercy, Cravens and Lane (2010) consider that this new market situation is characterized as the “age of thrift” in which consumer purchase behavior will be radically different. The authors contend that “a new type of shopper focused on gaining superior value from purchases looks set to emerge from the recession” (p. 6), thus leading to ‘new age of frugality’. This desire to economize and be thrifty is imposed to many consumers but is also experienced by many others as a result of a growing dissatisfaction with overconsumption and waste. As a result, consumers tend to flit from one offer to the other. Volatile behavior, mercurial consumption patterns emerge leading to less brand loyalty and a continuous search for better option in the market supported by word of mouth and social media. For example, (Descals et al. 2014) found that the number and weight of purchases of brands benefiting from price reductions promotions brands for a particular product increased in the period 2007-2011.

Simon (2009) identifies the following trends: Fear of the future; unfavourable change in price elasticity); hard value and cost benefits gain importance; compressed time preference; financing becomes more important, safety becomes a higher priority.

## METHODOLOGY

Based on the previously reviewed contributions, the following research question is investigated: What is the impact of the global economic and financial crisis in consumer behavior, consumption patterns and consumer values?

A qualitative approach was deemed adequate to explore in-depth how consumers deal with the recession and a focus group was conducted with a group of eight consumers. The focus group was led

by two experienced moderators and lasted up to two and half hours participants' thoughts and experiences. The focus group was fully transcribed and is being content-analysed.

## CONCLUSION

The literature review identified a number of changes in consumer behavior resulting from the recession and the recession mindset. In order to understand how does purchasing and consumer behavior change as result of the economic downturn, an exploratory study was carried out to delve into consumers' perceptions of how their shopping strategies and options had changed in the past few years.

An important feature of the impact is the conviction that these changes will persist after economic rebound. This is corroborated by different authors (Piercy, Cravens, & Lane, 2010; Flatters & Willmott, 2009; Beinhocker, Davis, & Mendonca, 2009). The feeling that consumers will not be the same again prevails: "a sense that the world has changed: The turmoil was not merely another turn of the business environment but a restructuring of the economic order" (Beinhocker, Davis, & Mendonca, 2009, p. 55).

**Keywords:** *Economic recession, crisis, consumer behavior, exploratory study.*

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## NEGOTIATION OUTCOMES EMPLOYING SCENARIOS: THE ROLES OF ETHICS AND TRUST AMONG GREEK AND ISRAELI EMPLOYEES

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### ABSTRACT

This research investigates the impact of ethical idealism and trust propensity on negotiation outcomes employing five different scenarios. Drawing on two samples from Greece and Israel, it examines negotiation outcomes under diverse circumstances, namely negotiating with new and existing customers, negotiating early and late in the day and making counter-offers. A survey questionnaire was translated from English to Greek and Hebrew, and six hundred forty-nine responses were collected from employees who worked in industries such as construction, banking, manufacturing, retailing, tourism, and public authorities in the two countries. The research findings show that ethical idealism and trust propensity significantly explain variations in the negotiators outcomes for the five studied scenarios. Concurrently, this research assesses whether negotiators in the Greek and Israeli societies respond differently in the same sets of scenarios. A number of variations among the responses of Greek and Israeli participants suggest that culture may impact negotiators' preferences regarding the outcomes of the negotiation scenarios. The study provides scholars and practitioners with a set of antecedents that explain negotiators' preferences. Conclusions and recommendations for future research are offered.

**Keywords:** *Negotiation outcomes, scenarios, ethics, trust propensity, Greece, Israel.*

## MANAGING SOCIAL COOPERATIVES IN SOUTHERN ITALY: THE CASE OF “COSY4YOU”

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### ABSTRACT

#### PURPOSE

Social cooperatives have greatly contributed to the expansion of the social economy in Italy, providing welfare services for their members as well as for the community and fostering the integration of disadvantaged people into society (Mancino and Thomas, 2005).

The purpose of this work is to analyse the management of social cooperatives in today's complex economic scenario through a case study analysis of a cooperative operating in the Campania Region in Southern Italy. More specifically, the research investigates how the organization is dealing with financial resource constraints in order to survive and reach its social service objectives.

This study is part of a research project on the management of nonprofit organizations. The analysis of these organizations has gained attention in the last years due to increasing importance of the third sector and growing complexity that characterizes the management of nonprofit organizations. As argued by Speckbacher (2003) “there seems to be a growing awareness that nonprofits need management just as for-profit organizations do”. Different authors have analysed whether and how strategic management notions and tools of for-profit firms can be applied to nonprofit organizations (Backman *et al.*, 2000; Kong, 2007; Tucker *et al.*, 2013). Indeed, though their activity is primarily directed to satisfaction of social needs, survival of nonprofit organizations requires a capability of dealing with management problems and creating economic value for stakeholders. In other words, these organizations need to pursue both social and economic performance in order to survive (Grumo, 2001).

#### METHODOLOGY

In order to accomplish the aim of this research we are conducting a case study analysis of a social cooperative operating in the Campania Region in Southern Italy.

“Cosy4you” is a social cooperative created in 2014 under the umbrella of “Peepul”, a nonprofit volunteer-based organization with a wide knowledge base in providing social services accumulated through the management of several public funded projects in almost 15 years. The activity of the

cooperative is now mainly focused on “accessible tourism”, with the aim of facilitating travelling of disabled people or people with special needs (such as the elderly, the obese, people with nutritional disorders, etc.), thus making their touristic experience “comfortable” and “easy” (hence the word “cosy”).

The main project of the cooperative consists in continuously mapping structures, cultural sites and touristic destinations in order to identify which of them are accessible according to different mobility needs following “European accessibility standards”. Moreover the project is directed at training employees of the identified structures in the activity of welcoming disabled tourists and promoting touristic packages through the use of an e-commerce platform. The mapping activity is nowadays limited to Campania Region, but the aim is to extend it in the short time in other Regions in Southern Italy.

The cooperative is now at a crucial point in its life cycle since it is facing problems in achieving its main objective, mainly due to difficulty in obtaining the necessary financial support from public funding. Therefore, managers of the cooperative are evaluating the possibility of starting a for-profit activity in the touristic industry above all at an international incoming level. At present they are investigating the feasibility of starting a firm, as a spin-off of the cooperative, with a business specialized in accessible tourism but not limited to it, since this option seems not to be economically viable. Such a process could allow to leverage and protect the know-how accumulated by both Peepul and Cosy4you and keep pursuing cooperative’s main objective.

## ORIGINALITY/VALUE

The case study analysis is showing a peculiar process that Cosy4you cooperative is going through, that is the analysis of feasibility of starting a for-profit firm operating in the tourist industry, in order to try to achieve its main aim of making tourism accessible to everybody. Even though a single case study cannot claim to be representative, the research can contribute to theory on the management of nonprofit organizations by investigating concrete processes that are put in place in order to deal with resource constraints and leverage knowledge accumulated in satisfying social service needs. More specifically, the analysis might contribute to both studies on the adoption in the nonprofit sector of strategic management processes imported from the for-profit sector and studies on the entrepreneurial orientation of nonprofit organizations.

**Keywords:** *Cooperative; social cooperative; nonprofit; accessible tourism.*

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## EMPIRICAL ANALYSIS OF THE EFFECTIVENESS OF ACQUISITIONS

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### ABSTRACT

The article comes up with the results of research on the effectiveness of acquisitions based on empirical analysis of transactions during the period from 2008 to 2013 on the subject of motive and type of transaction. The hypotheses about the higher effectiveness of horizontal transactions over other types, conglomerate one over domestic type and the hypothesis about the influence of particular motives on the result of the transaction were suggested and validated by the study. Also the hypothesis about the influence of market on the company's capitalization after the acquisition was introduced and wasn't confirmed by the results of the analysis.

### DESIGN/METHODOLOGY/APPROACH

The authors of this article have conducted an empirical analysis, which aim was to study the motives and types of mergers and acquisitions and evaluate their effectiveness (i.e. to identify those that led to the increase in the market capitalization of the acquirer).

On the basis of empirical research the following hypotheses have been put forward:

- 1) Horizontal transactions are more efficient
- 2) Domestic transactions are more efficient than cross-border
- 3) The company's value is influenced by the market, not the deal itself
- 4) Transactions related to certain motives are more economically justified

In order to archive this aim deals from 2008 to 2013 were selected, all of which represent the 100% acquisitions made by public companies that were not engaged in any other transactions.

The price of the acquirer's shares at the moment of the transaction and the year after was taken as an indicator of effectiveness. On the basis of this analysis an attempt was made to highlight the motives of mergers, which will most likely be economically justified.

## FINDINGS

### 1) Horizontal transactions are more efficient

Horizontal deals showed to be more efficient (72% showed increase in market capitalization versus 64% for vertical deals and 56% for conglomerate deals).

### 2) Domestic transactions are more efficient than cross-border

Domestic deals showed to be more efficient (69% showed increase in market capitalization versus 57% for cross border deals).

### 3) The company's value is influenced by the market, not the deal itself

Rejected. No correlation at all.

### 4) Transactions related to certain motives are more economically justified

The most common motive was the motive of increasing the market share (69 of 199), this includes the company's desire to increase its influence in the global market, acquiring a competitor, company's intention to get a leading position in the industry. The vast majority of transactions made because of this motive are cross-border, which demonstrates the intentions of companies to conquer its position on the world market. Moreover 50 deals out of 69 showed a positive growth in the share price for the year period (the maximum increase of 120%). On the basis of obtained data we can conclude that in future transactions made for the sake of increasing market share are most likely to be successful and cost-effective.

The following widespread motives were, firstly, the motive of the product portfolio diversification, which includes the reasons of the establishment of a new product or product line extension with the product range of the target company, and, secondly, the motive of potential growth, 22 transaction respectively.

14 of the 22 deals with the motive of product portfolio diversification demonstrated the positive growth of the share price. Most of the deals (17) were committed on the domestic market and only 5 transactions were international. This means that to achieve this goal, it is enough for companies to acquire local companies. Moreover, the reasonableness of this approach is demonstrated in the form of economic efficiency (3 out of 5 international transactions and 11 out of 17 local transactions showed positive growth).

Motive of potential growth reflects the results of economic efficiency of deals with the motive of product portfolio diversification (14 of 22 deals). Transactions made on the purpose of potential

growth, are mostly vertical. This may be caused by the desire of companies to grow intensively, that is by cost-cutting.

The motive of investment was seen in 19 deals, 15 out of which showed a positive increase in the share price. The majority of transactions (12) was international, which may also indicate the attractiveness of the investment in certain markets, countries or companies that have been acquired. Most common type of transaction was horizontal.

The motive of segment position follows up next. This motive differs from the motive of the market share increase in the way that the motive does not focus on taking a leading position in the market, instead it refers to modifications in a particular segment. 10 out of 13 deals are horizontal that confirms the validity of the motive. This motive has not demonstrated any significant economic efficiency, as only 6 deals have positive share price growth.

Up next comes the motive of assets diversification (11 deals). This sector is dominated by conglomerate transaction type (9 deals), which is explained by the desire of companies to invest in the non-core activities, thus diversifying its portfolio. The majority of transactions is international. This motif can be considered as economically justified, as 7 out of 11 transactions have shown positive growth in the share price.

The motive of getting access to the new technologies was singled out in 9 deals that were mostly of horizontal type. The motive can be considered economically justified as two thirds of transactions have shown positive growth in the share price.

The next motive was the motive of the financial situation improvement (8 deals). The motive did not justify its name, as 5 companies showed a negative change in the stock price within a year time period.

The rest motives were quite rare. The motive of cost optimization was tracked in 7 trades, 6 of which were local and vertical and only one was horizontal and international. The motive of value increase was marked out in 6 deals, only one of which fell in share price, the motive of the restructuring – 5 trades, 4 of which showed growth, and the motive of the development of new fields, which is typical for the mining industry, - 4 transactions, 2 out of which showed upward trend.

Such motives as enhancement of competitive advantages, expansion of distribution channels, acquisition of the manufacturer and the acquisition of a supplier can be considered to be special cases, because each of them referred to one certain company.



**Keywords:** *Mergers and acquisitions, acquisition, performance evaluation, prospective method of evaluation, retrospective method of evaluation, the motives of M&A transactions, market capitalization, profitability of the transaction, synergy*

## A COMPARATIVE STUDY REGARDING MUSLIM AND NON MUSLIM COUNTRIES: THE ISLAMIC BRANDING

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### ABSTRACT

The literary works about Islamic Branding keeps growing despite the rare analyses of Muslim clients 'viewpoint. Both limited analysis and anecdotal data advocate developing client understanding of Halal Branding; however inconsistent usage of Halal brand brings confusion and impacts constructive conception.

Our research specifically document preliminary studies of clients' conception of Halal Company across nations around the world.

The research was created to find out the particular understanding in addition to belief regarding Halal brand name involving Muslim customers in a very non-Muslim region in addition to mostly Muslim international locations.

A merged technique study tactic was acquired to know purchaser point of view regarding Halal as a brand name involving Muslim customers (Power, C., 2008). Original information declare that the inconsistent utilization of the word "Halal" like a "term, indication, symbol or maybe design" (Kotler et al, 2007), through marketing experts across the globe has produced confusion with consumer mind and blocking the creation of a great shortcut in the direction of communicating the benefit to the growing market segment.

The initiatory information is quite sensitive, unless additionally tested along and within cross-country studies. Results include realistic ramifications designated for marketers and Islamic councils/bodies around the world to recognize the necessity of standardizing the Halal logo in addition to supervising its use by marketers regularly. Such approach may provide benefits to the market once the consumption recognized and standardized.

**Keywords:** *Branding, Muslim, non-Muslim, logo, Halal food*

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## THE “GREEK BREAKFAST INITIATIVE” : CONNECTING FOOD WITH CULTURE

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### ABSTRACT

Gastronomy should be treated as a tourism product and therefore be included in the portfolio of the Greek tourism product. Its development as a tourism product requires no investment in plant and equipment. We need to invest in a new marketing approach. Culture significantly determines the food that humans are allowed to consume.(Atkins and Bowler, 2001; Logue, 1991 in Moira et al., 2015)

The factors which shape our choices of food consumption are social class, gender, culture, race and religion – which also constitutes a cultural factor (Carmouche and Kelly, 1995 in Moira et al., 2015)

Gastronomy as a tourist product expands beyond combining good food with good wine or other beverages, to participating in cooking classes, discovering local gastronomy products, visiting local food markets, visiting food or beverage production areas ( eg wineries or cheese factories), participation in culinary feasts and festivals, gastronomy tours etc. Local cuisine / local gastronomy can act as:

- an expression of gastronomy identity,
- an aspect of the cultural heritage,
- an opportunity of the primary sector development through the development of high quality products, but could provide a clear competitive advantage and a major source of resources for tourism and the local economy in general.

In this aspect, the Greek breakfast initiative stands as a great example of the implementation of a marketing project aiming to create a new tourism brand: Greek Breakfast.

Greek Breakfast is an initiative of the Hellenic Chamber of Hotels that aims to connect and reclaim the Greek gastronomy treasures to the hotel industry.

Through the use of Greek raw materials and traditional local recipes, presented at breakfast the hotel guests get a chance to be acquainted with Greek culture and gastronomy and gain a unique experience. (Hellenic Chamber of Hotels, 2010)

The main characteristics of Greek breakfast are: outstanding nutritional value based on the Mediterranean diet, supported by modern scientific evidence and current consumer trends. Different composition by region, based on products produced in this region. Offers an Experiential experience: Myth - History- Culture-Tradition of Greece. (Sete, 2009)

It is based mainly on products of the Mediterranean diet such as bread, nuts, olive oil, olives, yogurt, honey, cheese, sausages, fresh vegetables, beans, pies, sweets and fresh fruit. Every part of Greece, depending on climatic conditions, the soil composition, the resulting products and cultural relations and exchanges formed a special gastronomic culture and special local cuisines. Protection of the "Mediterranean Diet" as "Intangible Cultural Heritage of Humanity" by UNESCO in the 2nd semester of 2010 (17/11/2010), is an additional advantage in connection with the Greek breakfast- in addition to the characteristics of healthy food. (Unesco , 2010)

Since 2010, that the programme was launched, approximately 660 hotels are participating nationwide. But the number of hotels participating, is constantly increasing, proof that hoteliers come to realize that Greek breakfast adds to their competitiveness. Another benefit, is that all hotels participating are featured in the Greek Breakfast website – an extra promotion opportunity. ([www.greekbreakfast.gr](http://www.greekbreakfast.gr))

District	Number of hotels
Athens - Argosaronikos	60
East. Macedonia - Thrace	22
Southeast Aegean Sea Islands	24
Western Macedonia	10
Dodecanesse	55
Epirus	40
Thessaly	13
Thessalonika - Chalkidiki	55
Ionian Islands	54
Central Macedonia	21
Crete	107
Cyclades	73
Peloponesse	67
Pelion	24
Sporades islands & Evia island	24
Sterea Ellada	17

*Scheme 1, Hotels offering Greek Breakfast sorted by prefecture. Developed by the author. Information available at [www.greekbreakfast.gr](http://www.greekbreakfast.gr) , accessed 08 May 2016.*

The methodological approach of the survey for the proposed composition of the Greek Breakfast included (but was not confined) to: Analysis of established international breakfast buffet proposals, consumer habits in the tourists' countries of origin, investigation of similar proposals in competitive Mediterranean destinations, trends in consumer behavior and diet connection with the Greek

Breakfast, exploration of best practices (both literature and field research), Specifications and selection criteria of the Greek Breakfast ingredients.

Hoteliers who participated in the survey (through questionnaire, addressed to all hotels offering the Greek breakfast) conducted by the Hellenic Chamber of Hotels about the benefits of offering local products at breakfast contributed to:

- Maintaining a solid customer base
- Increase in bookings and turnover , Increased guest satisfaction rates
- Promotion of the hotel through the media and the Internet and
- Improved hotel image – branding opportunities

Another major benefit, is the interaction of the hotels with the local community and enterprises promoting new collaborations. (Hellenic Chamber of Hotels, 2010)

**Keywords:** *gastronomy tourist, cultural tourism, Greek breakfast initiative, Mediterranean diet.*

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## **INNOVATION IN SMES: SYNERGIES OF INTERNAL AND EXTERNAL FACTORS**

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### **ABSTRACT**

In a “knowledge-based economy”, rapid changes introduced by technologies lead on changes in competition rules. In that quickly changing competitive environment, innovation plays crucial role for the survival, growth and competitiveness of small and medium sized enterprises (SMEs).

The ability of SMEs to remain competitive is correlated with technological innovation, absorptive capacity and capability to update their technological knowledge. There is empirical evidence that innovation in SMEs contributes to their competitive advantage, industrial competitiveness as well as national development. Therefore, many scholars have examined the determinants of innovative activities for SMEs founding that technological innovation, absorptive capacity and capability to update technological knowledge are the major requirements for the utilization of knowledge in enterprises.

Firms corresponding to an open innovation model move to collaboration and outsourcing for R&D. There are several types of innovation cooperation that have the ability to diffuse technological knowledge and generate all types of innovation (product, process and organizational). However, there is evidence that the main source for enterprises to obtain necessary technological knowledge to innovate come from internal (in-house R&D) and external linkages (collaboration with research organizations/centres and other firms).

Many scholars have investigated the relationship of different types of synergies with product innovation, but little research exists about all types of innovation (product, process, organizational and marketing). Nowadays, because of the eruption of the financial crisis, the bulk of SMEs face lack of liquidity, credit problems, decrease of domestic demand in products and services, significant rise in the prices of raw materials and fluctuations on exchange rates. Therefore, the investigation of whether investments in innovation and technology knowledge are worthwhile gathering great interest.

The aim of this empirical study is to analyse the determinants of innovation for SMEs, with special focus on the impact that synergies (external and internal) have on innovative activities. The novelty of this study is the examination of synergies of internal and external factors in all types of innovation in SMEs. More specifically, with the use of probit models there will be examined whether the innovative activities of Greek manufacturing firms and by extension their competitiveness are developed within firms or via synergies with other organizations or research centres/ universities. In addition, focus will be given in the role of firms' absorptive capacity in utilization of technological knowledge to innovation.

**Keywords:** *innovation, competitiveness, SMEs, synergies, absorptive capacity*

## HOW TO IMPROVE PRODUCTIVITY OF KNOWLEDGE WORKERS IN KNOWLEDGE INTENSIVE BUSINESS SERVICE SECTOR COMPANIES (KIBS)

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### ABSTRACT

#### CONCEPTUAL FRAMEWORK

Increased significance of the phenomenon of innovativeness observable currently justifies heightened interest in companies providing business services which make use of knowledge – the so called Knowledge-Intensive Business Services Sector. These companies base their operations on services which rely on **knowledge** and their “production” is almost entirely dependent on the company’s ability to use knowledge resources possessed by the employees (Larsen, 2001). The activity of these companies consists of accumulation, production or distribution of knowledge in order to develop solutions aiming at adaptation of services or products to meet customers' needs (Bettencourt *et. al.*, 2002). This knowledge is used in an innovative method of creating value. Innovativeness in KIBS companies is closely interrelated with the presence of highly qualified employees, which accentuates the dominant role of the **human capital**; business services are created by undertaking complicated operations of intellectual character, while simultaneously presenting an appropriate attitude – of respect towards non-standard expectations, motivation and willingness to learn. Thus, our concern here goes beyond the sole issue of *knowledge work*, we are concerned rather with *the knowledge-ability in work* (Thompson, Warhurst & Callaghan, 2001). Consequently, in these companies it is the knowledge workers who form the main source of value creation, developing unique services which answer personalized needs of the customers. In this context, a significant aspect emerges, related to the productivity of knowledge workers and organizational factors for its improvement. Although in this paper it is assumed that the level of productivity and results in an organization is improved due to their individual levels; the view which has its theoretical and empirical justification (Huselid, 1995; Beck, Beaty, Sacket, 2014), simultaneously, the study of productivity of this particular group of employees is related to serious difficulties. This is connected with, among others, the very specificity of the knowledge-intensive work and creation of services, whose measurement is problematic due to their intangibility, heterogeneity, inseparability, and perishability. Moreover, in the case of knowledge-intensive work in the services sector we are faced with various activities which lead to results (the problem of standardization of work assessment) and with significant changeability of the results of provision of services – in effect of diversified customers’ requirements and expectations, but



also due to the significant engagement in the process of service creation. Work-intensive knowledge is invisible, dependable on individual productivity, and composed of numerous individual determinants which are difficult to compare. Therefore, the study of the knowledge workers and their determinants should be related to a wide range of variables, while simultaneously accounting for the specificity of their activities. Being aware of the limitations in examining performance on the individual and organizational level, I assumed an approach which integrates both the concepts based on employees' behaviors (*behavior-based performance*) (Campbell, 1990; Aguinis, 2013; Beck, Beatty, Sackett, 2014), and on the results of their activities (*results-based performance*) (Bernardin, Beatty, 1984; Minbashian, Luppino, 2014; O'Boyle, Aguinis, 2012). **Employee performance** is understood as behaviors and results which are mutually correlated and which contribute to the realization of organizational goals (Viswesvaran, Ones, 2000). It was suggested to include into the conceptualization of performance: behaviors, various types of activities based on knowledge, and results. Among behaviors which are relevant from the point of view of creating value for the customer and which are simultaneously related to knowledge as the key resource in KIBS sector companies (its acquisition, sharing and, above all, creation), it is possible to indicate: innovative, proactive and pro-social behaviors. Consideration for precisely those behaviors in relation to performance finds its justification in the to-date analyses, in view of which creativity and proactive behaviors are positively related to both individual and organizational performance (Ohly, Fritz, 2010; DuBrin, 2013). Moreover, the indicated behaviors are related not only to task performance, but also to contextual performance (Motowidlo, 2003). However, as regards the results of activities, their indicators comprised: goal realization, timeliness, customer satisfaction, and innovative effects.

From the point of view of the analysis of determinants of knowledge workers' performance in KIBS sector companies, human resource management (HRM) may be considered as one of the key determinants. Examination of this factor has its foundation in the theoretical approaches, as it is indicated that the basis for explanation of individual productivity and gained results is formed by the theories from the area of organizational behaviors and human resources management (Aguinis et al., 2016). In the field of human resources management, the recommended approach is the high performance work systems – HPWS – together with high performance work practices – HPWP, which accentuate engagement, co-participation and effects (Becker & Huselid, 1998; Huselid, 1995; Messersmith & Guthrie, 2010; Posthuma et al., 2013; Tregaskis et al., 2013). Also, although there are numerous studies indicating a positive relationship of these systems with high task results of employees, there are still many issues which remain unresolved, comprising, e.g., inadequate level of consideration for individual and organizational factors which mediate between HRM system and

performance, or insufficient consideration for the specificity of services companies (especially those which design services basing on knowledge-intensive work) (Fu et al., 2015).

Another aspect is related to the specific impacts of HRM focused on key determinants of performance of employee. The organizational factors, which are key to the productivity of employee, include: person-organization fit (Kristof, 1996; Kristof-Brown, Billsberry, 2013). Lack of fit may result in a situation in which employees with even high potential to create knowledge will not achieve the intended results, although this will not be due to lack of opportunities to undertake productive professional activities. This concerns both, the complementary fit, i.e. adapting resources of the employee (their competences) to the expectations/requirements of the task (*person-job fit*) but also the supplementary fit, i.e. the compliance of the employee and the organization in terms of goals, values, needs (*person-organization fit*). The use of the construct of “person-organization fit” resulted from two significant premises: 1) the construct concerns the major organizational factors which influence individual performance, e.g. requirements of work environment; 2) it forms a perspective which is valuable not only for understanding of the factors which determine achievement of individual results but also for stimulating the desired organizational behaviors through activities in the sphere of HRM. This is because HRM practices play an important role in fitting employees’ competencies to the requirements of job position, but also in the formation of attitudes which facilitate employees’ engagement. Moreover, in the perspective of searching for other determinants of performance of knowledge workers, the analysis also included other factors which may be considered as crucial for achieving intended results in the workplace: organizational commitment and a sense of meaningful work.

## PURPOSE

The purpose of the study presented in this article is to describe and explain the relationship between HRM practices and productivity of knowledge workers in KIBS companies and an explanation of the mechanism and determinants of the influence of HRM practices on behaviors and results of knowledge workers. This impact may be both direct (impact of individual practices) and indirect – through variables that have the status of mediators. In the proposed model, explaining the influence of HRM on productivity in the workplace, a “person-organization fit” (Kristof, 1996) construct was used. The research model also accounted for the inclusion of two other variables: organizational commitment and a sense of meaningful work. Identification with the company, positive attitudes towards work and undertaking a significant effort for the sake of the organization comprise significant determinants of innovative activity and effectiveness, with the assumption, however, of integration of behavioral and attitudinal perspectives on organizational commitment (Meyer & Allen,

1991). These aspects are accounted for in the high involvement work practices (HIWP) approach and commitment-based HR.

## DESIGN/METHODOLOGY/APPROACH

In order to confirm the research hypotheses quantitative studies were conducted. The surveys covered 563 employees of companies from the KIBS sector in Poland diversified as to size and line of business. The majority of employees who participated in the survey represented: corporations (7%), large companies (26%), medium-sized companies (67%); from the sector of knowledge-intensive services, among others: academic research and development, telecommunications, software, IT consulting and related operations, information services, head offices operations; architecture and engineering; technical research and analyses. Among the respondents, the majority were employees within age range of 26-35 (43%), 36-45 (30%), with university education (91%), mostly with work experience of over 5 years (87%); 53% of the respondents were female and 47% male. The survey used the technique of CATI – computer assisted telephone interview. The strategy of random sampling of companies which fulfill the criteria of membership in the KIBS sector was used.

The diagnosis of the examined variables was conducted with the use of the tools which underwent exploratory factor analyses – EFA – with the method of main components with Varimax rotation, the reliability of the tool was also checked. The diagnosis of employee performance was conducted on the basis of the measurement of aggregated innovative, pro-social and proactive behaviors, and results. Items coming from already existing tools were adapted and used. Their detailed characteristic, together with the parameters of reliability and factor analysis is contained in the study of A. Wojtczuk-Turek (2016). HRM Practices were measured with the author's own tool. The items' content was developed on the basis of adaptation of statements from the tools for the examination of HRM practices, in relation to the conceptualization of high performance work systems (Huselid, 1995; Guthrie, 2001, Fu et al., 2015). The measurement of person-organization fit was conducted with the assistance of adaptation of items related to the conceptualization of fit (Kristof, 1996; Cable, DeRue, 2002). The variable of organizational commitment was measured with the tool, referring to the aspects conceptualized in the model of organizational commitment of Meyer and Allen (1991), whereas sense of meaningful work – with the use of items adapted from The Work and Meaning Inventory (WAMI) (Steger, Dik, Duffy, 2012).

The statistical analyses were performed with the use of SPSS software, version 23. For the verification of the hypotheses and mapping out the paths of relationships between the variables, the SEM (structural equation modeling) method was employed, included in AMOS software suite, version 23. The choice of the SEM method and not the Baron and Kenny's (1986) method of mediation analysis or

bootstrapping (Preacher & Hayes, 2004), resulted from the fact that the analyzed model was not a simple model containing partial indirect relationships only, but a complex model, covering the mediation of the variable of person-organization Fit

## FINDINGS

The research confirmed significant statistical relationship between productivity (behaviors and results) and all examined variables: HRM practices, person-organization fit, organizational commitment, sense of meaningful work. On the basis of the analysis with the use of structural equation model it may be stated that performance of knowledge workers is explained with the use of HRM practices, while there is both a direct influence and indirect influence through the sense of meaningful work. At the same time, HRM practices influence organizational commitment, which reinforces the sense of meaningful work. The same relationship was present in the case of person-organization fit, which supports employee performance both through the sense of meaningful work, and through being combined with organizational commitment. The achieved results stress not only the key importance of activities within the sphere of human resource management, but also the significance of employees' attitudes, leading towards desired behaviors and achieved results. In the case of the sense of meaningful work, which in the discussed cause-and-effect chain, leading towards results, constitutes an outcome of organizational commitment and person-organization fit, it is necessary to point out that triggering it is related to both emotional responses (satisfaction), and the more complex processes of employees' identification with goals and values of the organization in which knowledge workers are employed.

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## HR PRACTICES TRANSFER WITHIN MULTINATIONAL CORPORATION IN EURO-MEDITERRANEAN REGION

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### ABSTRACT

The flow of multinational corporations (MNCs) relocating from the northern to the southern countries shows the development of international cooperation in the Euro-Mediterranean region. In this context, the transfer of HR practices appears as a strategic matter in multinational corporations dealing with subsidiaries in this region. Several studies have shown similarities, but also many differences, between the managerial practices in the different countries. The choice of strategic direction for the development of international human resources management depends on several factors: the strategy adopted, the corporate structure, the size of the subsidiary, the efficiency of its staff, the attitudes of the parent company, governmental regulations (Dowling et al., 1994), the MNC's degree of development (Jaussaud et al., 2000), the different socio-cultural environments the MNCs face (Tayeb, 1998; Evans, 1986) and the subsidiary life cycle (Kynighou, 2014). Several researchers (D'Iribarne, 1987; Franck, 1997; Poirey, 1997, 1998) have highlighted the ethnocentric direction of French MNCs (Heenan and Perlmutter, 1974). According to a survey carried out by Poirey (1997) on 35 French MNCs established in Europe, developed and developing countries, it appears that the ethnocentrism of French companies is *"moderate in Europe and developed countries, whereas it is high in developing countries"*. However, some parent companies started changing their HR strategy to fit the local context. This leads us to the following question: What are the factors that influence the evolution of the HR strategic orientation of MNCs in Euro Mediterranean region?

To answer this question, we conducted a longitudinal study within two medium sized subsidiaries belonging to two French Equipment and Chemical MNCs Equipment and Chemical established in Tunisia for over 20 years. The study is based on two phases. The first one, in 2006, we conducted interviews with 2 local HR managers (1 HR from each company), 14 managers and 4 HRDs managers from the parent companies. The data was then coded using NVivo software and analysed. The main themes and questions discussed during these interviews are related to the international HR policy, the HR practices transferred to the Tunisian subsidiaries, the aim and the factors influencing the international HR strategy.

At the second step of this research, we came back 10 years later in 2016 to the same companies to investigate whether the international HR strategic orientation remains the same or it evolved. We met

with mainly the 2 new local HR managers, 1 previous HR managers that evolved to another position and 5 managers from other departments at each company belonging to manufacturing, marketing, supply chain, finance and logistics.

The analysis of the collected data showed that Equipment Company kept the same ethnocentric orientation while Chemical Company evolved its strategy to polycentric. This research shed lights on the main factors influencing this evolution: the changes in the institutional context (linked to the Tunisian revolution in 2011), the maturity of the subsidiary, the development of local network, the number of expatriates in local subsidiary, the corporate culture. However, many factors reinforced the globalisation/standardisation of HR practices within Equipment Company, such as: the post colonialism, the education system, the high number of expatriates.

In the light of these points, we used a processual approach to elaborate a framework about the evolution of the HR practices transfer from headquarter to subsidiary in the Euro-Mediterranean region. Some practical insights are advanced to be used by French corporations operating in euro-Mediterranean countries.

**Keywords:** *Transfer, HR practices, Multinational, Subsidiary, Headquarter, Strategy, Euro-Mediterranean region*

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## **DIGITAL ENTREPRENEURSHIP: RESEARCH AND PRACTICE**

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### **ABSTRACT**

Digital entrepreneurship is broadly defined as creating new ventures and transforming existing businesses by developing novel digital technologies and/or novel usage of such technologies, (European Commission, 2015). Digital entrepreneurship has been viewed as a critical pillar for economic growth, job creation and innovation by many countries including the Member States of the European Union. We argue that a nation's digital entrepreneurial capacity depends largely on digital entrepreneurial behaviour, culture, and strategies as well as a supportive innovation ecosystem in which governments, industry, business, educational institutions and NGOs (non-government organizations) work together. Therefore, a holistic and integrative approach is needed. This study aims to explore the emerging concept of digital entrepreneurship from multiple disciplinary perspectives, namely, information technology and systems, entrepreneurship and management, as well as contextual political/legal and socio-economic factors and their impacts in a systemic and integrative way. For that purpose, the paper develops a conceptual model to study digital entrepreneurship drawing on current literature and three well-established theories – social network theory, social capital theory and institutional theory. The model addresses five fundamental research questions of digital entrepreneurship, thus leading to a better understanding of the concept and practice of digital entrepreneurship.

### **INTRODUCTION**

The rapid proliferation of digital technologies with new functionalities has profoundly changed competitive environments, reshaping traditional business strategies, structures and processes (Bharadwaj et al. 2013). For example, in the networked economy powered by digital technologies, many organizations are getting smaller, with one-person companies and partnerships proliferating. New digital technologies such as social media, big data, and mobile and cloud solutions technologies give rise to new ways of collaborating, leveraging resources, product/service design, development and deployment over open standards and shared technologies (Markus and Loebecke, 2013). These technologies power the digital economy by bringing in a new range of opportunities with substantial potential business value and can dramatically reduce the cost for new ventures (Zhao et al., 2015). A good example is Alibaba.com which has helped millions of Chinese become entrepreneurs and, in the process, created many jobs.

Although the opportunities created by digital technologies are enormous, they also bring serious challenges. Digital technologies are reshaping fundamentally the labour market. Take Australia for example. Around 40 per cent of Australian jobs that exist today will be lost in about 20 years' time according to a recent research report by the Committee for Economic Development of Australia (CEDA, 2015). To harness the opportunity and address the challenges that are brought forward by digital technologies, we argue that Australia needs to position itself to better take advantage of digital entrepreneurship. Although the Australian Government has developed a series of national strategies to enhance Australia's digital transformation, Australia does not have a national strategy to grow the digital entrepreneurship capability that drives the digital economy and realizes the business value of digital technologies. According to a recent survey conducted by PricewaterhouseCoopers (PWC, 2014), Australia's digital IQ (i.e. how well organisations capture the value they expect from technology investments) is 61 per cent, which is below the average (63 per cent) of the 36 countries surveyed. In the same survey, it was also found that only 43 per cent of company executives in Australia say that they have a digital enterprise roadmap that includes digital business capabilities and processes, whereas the average of the 36 major economies surveyed is 53 per cent. The findings indicate that a significant gap exists between Australia and other major economies in terms of digital IQ and digital strategy development. Australia will lose its competitiveness if its businesses fail to embrace the rapid and fundamental changes as a result of digital technologies and embrace digital transformation. This paper argues that its capacity to do so depends largely on digital entrepreneurial behaviour, culture, and strategies as well as a supportive innovation ecosystem in which governments, industry, business, educational institutions and NGOs (non-government organizations) work together.

Digital entrepreneurship, as an emerging phenomenon, fuses and involves stakeholders from different social and economic sectors. This paper posits that a holistic and integrative approach is needed. For example, growth in the number of digital entrepreneurs relies on the digital business skills of individuals as well as systemic support through transformative policies and programs from governments, industry/business, education and training institutions and the society as a whole. In this regard, this paper aims to explore the emerging concept of digital entrepreneurship from multiple disciplinary perspectives, namely, information technology and systems, entrepreneurship and management, as well as contextual political/legal and socio-economic factors and their impacts in a holistic and integrative way.

## **DIGITAL ENTREPRENEURSHIP RESEARCH**

While the term 'digital entrepreneurship' has been used by some researchers and policy makers, its conceptualization remains quite elusive. There is very little scholarship evident in the study field of

digital entrepreneurship. Is digital entrepreneurship a sub-set of entrepreneurship associated with digital technologies? Or is it a sub-set of digital economics associated with entrepreneurship? Or is it sufficiently important or distinctive to be recognized as a separate field of scholarship? Only recently have some studies in the entrepreneurship field started to examine the impact of digital technologies on entrepreneurs' decision making (Fischer and Reuber 2014; Sigfusson and Chetty 2013) and entrepreneurial activities for venture development (Allison et al. 2014). There is a lack of conceptual discussion and development of the concept of digital entrepreneurship as most prior research on using digital technologies in entrepreneurship examined only sporadic phenomena related to it. Some important fundamental questions remain largely unanswered in the current literature. For example, how do digital technologies transform entrepreneurship? How is digital entrepreneurship different from traditional entrepreneurship? How would digital entrepreneurship predict performance outcomes? Several review articles on entrepreneurship identify other gaps in understanding the use of digital technologies by entrepreneurs (Kiss et al. 2012; Mainela et al. 2014).

Recent developments in entrepreneurship research have given increased attention to the novel usage of digital technologies for entrepreneurship. For instance, Sigfusson & Chetty (2013) report how international entrepreneurs involved in software in Iceland use social networking sites to develop their social capital and to identify opportunities. Digital platforms, such as open source communities (Yetis-larsson et al. 2014), or innovation competition websites (Lampel et al. 2011), can serve as marketplaces of knowledge and innovations (Dushnitsky and Klueter 2011), or as brokers between solutions seekers and problems solvers (Fischer and Reuber 2014). Recently crowdfunding has received growing interest from the IS field (Burtch 2014; Zheng et al. 2014) and such studies provide interesting insights into funders' lending behaviors and contribution patterns on crowd-funding websites.

The potential for digital technologies to be a distinct economic influence was recognized some time ago, such as in the comments by Rosenbaum and Cronin (1993) when they remarked (p. 461) that:

*Of much greater importance, however, is the growing awareness among many companies and entrepreneurs that there is strategic and economic advantage to be gained by becoming involved in the growth and development of electronic networking ...*

With improving communication and increasing specialization, opportunities for individual actors to participate in the digital economy increased. This is identified and, to some extent explained by Yetis-Larsson, Teigland and Dovbysh (2015). They introduced this concept by saying (p. 475):

*In the contemporary economy, work is increasingly becoming freelance-based while moving online. Open source software communities are rapidly becoming arenas in which individuals identify, co-create, and realize opportunities through shared resources and expertise. Operating in a communal setting, these*

*individuals, who we label open entrepreneurs, work and collaborate with members of their own open source community.*

Yetis-Larsson et al. identify their *open entrepreneurs* as becoming economically more important and their work model self-sustaining. In order to realize the potential of digital entrepreneurship government settings have to be, if not encouraging, at least benign. This was recognized by the OECD as early as 2001 (OECD 2001, p. 8) when it noted that:

*Policies that engage ICT, human capital, innovation and entrepreneurship in the growth process, alongside policies to mobilize labor and increase investment, are likely to bear the most fruit over the longer term. But to have any chance of succeeding in these areas, governments must ensure that the fundamentals – macroeconomic stability, openness and competition, as well as economic and social institutions – are working.*

It is clear that political, economic and social environments all have a role to play in the development of digital entrepreneurship.

## WHAT IS DIGITAL ENTREPRENEURSHIP?

Digital entrepreneurship is a term that appears to have only a vaguely-settled meaning. While it is a rather complex definition, that used by the European Commission (2015, p.1) appears to be the only attempt to define digital entrepreneurship up to now:

*Digital entrepreneurship embraces all new ventures and the transformation of existing businesses that drive economic and/or social value by creating and using novel digital technologies. Digital enterprises are characterized by a high intensity of utilization of novel digital technologies (particularly social, big data, mobile and cloud solutions) to improve business operations, invent new business models, sharpen business intelligence, and engage with customers and stakeholders. They create the jobs and growth opportunities of the future.*

Arguably, digital entrepreneurship is probably the most significant single manifestation of entrepreneurship and has flow-on effects into the structure of business itself. In this regard, digital entrepreneurship appears likely to have a profound effect on all advanced economies. For example, the Australian Innovation System Report (2015, p. 46) noted:

*The values of entrepreneurial organizations have mostly been heralded for employment generation and commercialization of new inventions. This is all changing with the rise of the knowledge and digital economy, where entrepreneurs and the organizations they create are uniquely positioned to exploit new opportunities, adopt new production methods and technologies, and reshape competition by penetrating new markets.*

It is reasonable to conclude that digital entrepreneurs will have a profound influence on the further development of the internet and the digital economy.

## **WHY IS DIGITAL ENTREPRENEURSHIP IMPORTANT?**

According to Murphy et al. (2005) it is primarily entrepreneurship that has been responsible for the amazing increase in Western per capita income over the past 200-300 years. The continuing importance of entrepreneurship in Australia is demonstrated by Hendrickson et al. (2015) that the increase in employment that occurred during the Global Financial Crisis, the greatest economic downturn since the Great Depression of the 1930s, was attributable to entrepreneurship. As noted by Zahra (1999), entrepreneurship should be considered as a significant socio-economic development factor in solving unemployment problems, by providing a wider range of consumer products, and increasing competitiveness and overall prosperity.

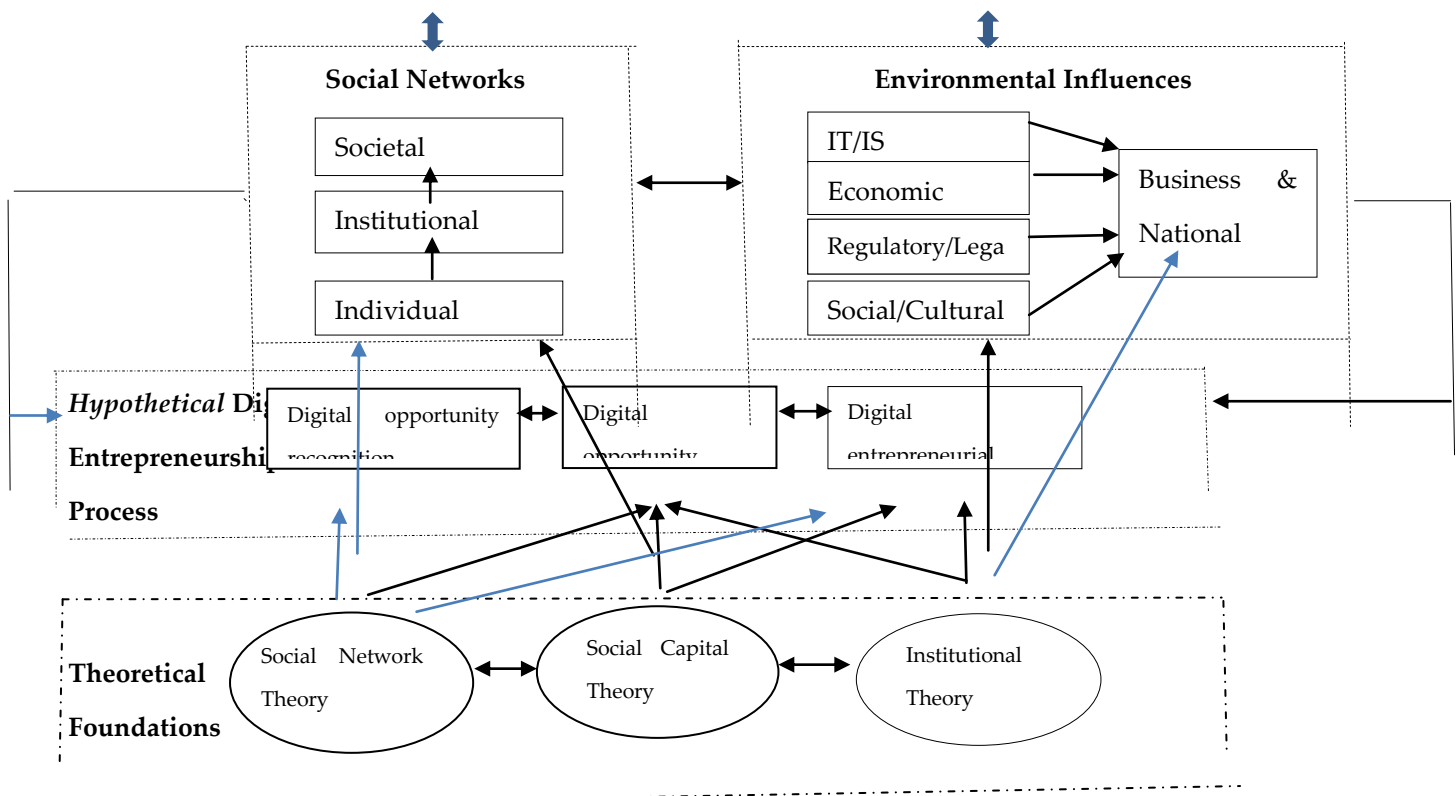
In the context of Australia, with the rapid growth of ICT and digital technologies, the contribution of the ICT sector to the Australian economy was profound because the direct contribution of the internet to the Australian economy is around \$50 billion, or 3.6% of GDP (AIIA 2015). As recently as 2015, *Seek*, the largest job advertising agency in Australia, has reported that 10% of job vacancies are currently in the ICT sector. Australian research shows that small and medium sized enterprises actively using new technologies to improve communications and business processes create more new jobs and generate more revenue than SMEs that use little technology – in fact, between 2010 and 2012 SMEs regarded as leaders in the adoption of technology increased revenues 15 percentage points faster and created jobs at twice the speed of less progressive companies. A recent PWC analysis estimates that Australian small businesses can generate additional \$49.2 billion revenues in the next ten years by making better use of digital technologies, of which 53 per cent could be realized in rural and regional Australia (PWC Australia, 2015). All this evidence demonstrates the importance to the Australian economy of promoting digital entrepreneurship. To achieve its vision of becoming a global leading digital economy by 2020 (Australia Government, 2011), we argue that Australia needs a national strategy and a concerted national effort to grow the digital entrepreneurship that drives the digital economy and realizes the business value of digital technologies.

## **A CONCEPTUAL MODEL TO STUDY DIGITAL ENTREPRENEURSHIP**

Digital entrepreneurship as an emerging concept differs from the traditional and general entrepreneurship that has been studied for years. The European Commission (2013) identified five 'pillars' in its conceptual model of digital entrepreneurship, each of which is relevant in the analysis of digital entrepreneurship:

- 1.Digital knowledge base and ICT market.
- 2.Digital business environment.
- 3.Access to finance.
- 4.Digital skills and e-leadership.
- 5.Entrepreneurial Culture.

We argue that to study this new phenomenon in an integrative and holistic way, a new conceptual framework is needed. Figure 1 illustrates our proposed approach to the study of the relationships amongst variables in a hypothetical process (which is yet to be empirically tested) of digital entrepreneurship. Given the social and networked nature of digital entrepreneurship, three theories: social network theory (e.g. Borgatti et al., 2009); social capital theory (e.g. Nahapiet and Ghoshal, 1998); and institutional theory (DiMaggio and Powell, 1983), are selected as the theoretical foundations for our model. Social networks and social capital commonly appear to interact with each other in digital entrepreneurship development. For example, open source software (OSS) communities are increasingly attracting entrepreneurs to create and obtain economic benefits through sharing knowledge and innovation in the communities (Yetis-Larsson, et al., 2015). The key argument in social capital theory is that relationships among members in a social network can become or lead to an important source of social capital (e.g. information, knowledge and resources). The position of individuals or firms in the network also affects their innovation performance. Studies suggest that the higher the centrality, the higher the performance (Tan et al., 2014).



**Figure 1. Conceptual Framework for Study of Digital Entrepreneurship**

By using these theories, this model helps explore how social networks at individual, institutional and societal levels, and social capital, online and offline, affect digital opportunity identification and exploration as well as entrepreneurial outcomes. In particular, this model allows us to investigate the role and intensity of social networks and social capital in, and the effects of their interaction on, the development and outcomes of digital entrepreneurship. This line of inquiry will help answer the following two research questions:

1. What role do social networks play in digital opportunity identification and exploration at individual, institutional and societal levels?
2. How, and to what extent, do social networks become or lead to an important source of social capital in digital entrepreneurial development and performance?

The answers to the questions can help examine and test whether and how digital entrepreneurs follow the same entrepreneurial process as traditional ones, namely, opportunity recognition and exploration, and entrepreneurial outcomes.

To investigate the environmental influences, in particular, the role of enduring systems or institutions in the development of digital entrepreneurship, the model draws on institutional theory (DiMaggio and Powell, 1983). According to institutional theory, institutional forces have many facets, which Scott (1995) summarized and categorized into three – regulatory, social and cultural influences that promote survival, and legitimacy of an organization. Institutional forces can be formal and informal

(North, 1990). Formal institutions refer to laws, regulations, and their supporting apparatuses and informal ones could be social norms, values and beliefs. Although institutional theory has been adopted in entrepreneurship research and proved to be highly useful (Bruton et al., 2010), its application in digital entrepreneurship research is novel. We argue that the theoretical lens of institutional theory allows researchers to explore in-depth what and how a society's regulations and rules, social norms and culture can do to influence the ecosystem in which digital entrepreneurship can thrive. Given the important role that the economy and ICT can play, the model also uses them as environmental forces for the study. This line of inquiry addresses the third and fourth research questions below. The results of this inquiry will complement the findings from social networks and social capital perspectives and can help develop sound business and national digital entrepreneurship strategies to answer the fifth research question below.

3. What and how do digital technologies transform entrepreneurship in the developmental process and in terms of outcomes?
4. What and how do environment forces (e.g. ICT, economic, regulatory/legal and social/cultural) influence the process and outcomes of digital entrepreneurship?
5. What support mechanisms, structures, strategies, and performance variables are needed for Australian digital entrepreneurs and firms to enhance their performance?

## CONCLUSION AND FUTURE RESEARCH

There is an arguable case to recognise digital entrepreneurship as a distinct field of academic scholarship in its own right based on its social and economic importance. The European Commission has, through its 2013 study into digital entrepreneurship, identified this topic as worthy of specific analysis. There is a body of scholarship, albeit an apparently quite thin body, related to digital entrepreneurship that presently exists, and this body of scholarship has found several homes, principally in the existing areas of digital economy and entrepreneurship. Taking each of these factors into account there is a case for recognition of digital entrepreneurship as a new and growing area of scholarship and research. In this regard, the present study paves the way for future research into this important and yet underexplored study field.

**Keywords:** *Digital entrepreneurship, digital economy, social network theory, social capital theory, institutional theory*



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## AN EXPLORATION OF CORPORATE CONSCIENCE

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### ABSTRACT

This paper is based on the (preliminary) results of an empirical research in the area of corporate culture which aims to enhance the theoretical understanding of how regulated companies react to laws and regulations and how they ensure “compliance” with all relevant laws and regulations (“corporate compliance”).

Contemporary Compliance theory can roughly be divided into three major schools of thought, distinguished by different concepts of Compliance motivation:

Becker (1966) developed a utilitarian Compliance theory that puts economic motives and the rational choice of the best utility in the centre. This theory was later expanded to other economic factors like deterrence of financial sanctions (e.g. Shover and Hochstetler (2006) or Prakash and Potski (2006)). A second school seeks to understand how certain internalized beliefs motivate “normative” Compliance. According to Tyler (2006) people will obey rules, if the rules are viewed as fair and legitimate and if the agents enforcing the rules are legitimate and use fair procedures. The third school argues that social factors such as earning respect from others are important to motivate compliance behaviour (e.g. Meier and Johnson (1977)).

Applying any of these theories in the context of the compliance behaviour of a company involves the following hurdles: First, a company is a “social system” comprising of multiple individuals. As social system a company reacts differently to motivations for and against regulatory compliance, than a single individual. Compliance behaviour of a company is not just the sum of the compliance behaviour of its employees, but rather the result of a complex interaction of the individuals that shape and control the company (corporate compliance is influenced by employees, managers, share holders and even outsiders like auditors and consultants). Secondly, compliance behaviour of social systems is not limited to a dual outcome (comply or not comply), but can take various forms in between. For example a company can have different qualities of internal policies, trainings and control mechanisms. Therefore compliance behaviour of a company can look quite different than compliance behaviour of an individual person.

One study that has ventured to disentangle the “multiple selves” of a company with the aim to understand what motivates compliance in companies was presented by Lehmann Nielsen and Parker (2012) under the title *“Mixed Motives: Economic, Social and Normative Motivations in Business Compliance”*. Based on data gathered in a large-scale survey, Lehmann Nielsen and Parker were able to

demonstrate that in fact a combination of economic, social and normative motivations foster Compliance behaviour within companies and developed a new holistic and plural model of corporate compliance.

The present research study embraces this concept of a holistic and plural model of corporate compliance as underlying theoretical framework, but also acknowledges the limitations of this model: This model is unable to explain the specific compliance behaviour of companies in a specific industry or even of a specific company (other than in terms of stronger or weaker economic, normative or social motivations in different industries). While the model acknowledges that normative, economic and social factors interact within a company, the details of this interaction remains largely a “black box” and as a consequence it is very difficult for policymakers to take any practical implications from this model to enhance the quality of corporate compliance. It is the aim of the present study to open this black box.

An inductive approach was used to explore the details of both, how corporate compliance actually looks like and what motivates compliance behaviour in a real life companies. The setting for this study is the case of the German asset management industry. In-depth interviews with experienced Compliance Professionals of some of the largest asset management companies in Germany were conducted to get an insight about how these companies ensure compliance with all relevant regulations. Interview results were transcribed and Grounded Theory coding technics inspired by the works of Glaser and Strauss (1967) were used for data analysis.

Data analysis revealed a variety of interesting findings, like examples for economic, normative and social motivations for compliance and how these have changed over time. While the research work is not yet completed and the final result shall be presented elsewhere, this paper aims to illustrate and discuss one interesting observation that emerged at an early stage of data analysis: An exploration of “corporate conscience”. The concept of corporate conscience is not generally new to the literature, but it has not been explored in the context of corporate compliance research. This paper will therefore discuss the concept of corporate conscience from a new and different perspective:

German asset management companies have established formal Compliance departments allowing them to monitor the rapidly changing regulatory requirements. The author conducted interviews with leading Compliance experts, who manage these departments. Surprisingly, all informants explained that they do not agree that their role is to ensure that the firm complies with the laws. In their view the Compliance department (sometimes together with the Legal department or Risk Management department) must only ensure that the board of directors is informed about new regulations and possible implications of new regulations on the company (e.g. changes of internal policies), as well as about regulatory breaches within the company (e.g. if a member of staff violates a rule). It is however

not the responsibility of the Compliance officer to ensure compliance. This explanation sounds strange but can be explained: Compliance officers face the problem that they are not empowered to make business decisions (e.g. to stop a certain line of business due to regulatory risk or to fire an employee because he breaches a internal policy). This power rests with the board of management. But, what is then the role of the Compliance officers in a company? It appears from the interviews that their role is twofold: First, they make sure that the companies highest governing body (the board of management), as well as all (relevant) employees are aware about all relevant regulations. They thereby act as a strong facilitator within the company (as social system) to internalize regulations, but also the values included in these regulations (e.g. *“insider dealing is not only forbidden, it is also a bad thing”*). Second, they monitor internally how the regulations are lived (and indirectly how the values are internalized) and report monitoring results back to the board. They thereby enable the board (as the “brain” of the social system) to reflect about the regulations (and intrinsic values) and contrast them with the companies/ employees’ business conduct. Or, in other words, they act as the “good voice” within the company’s decision-making bodies and thereby enable the organization as a whole to develop a form of corporate conscience.

This observation will be laid out in more detail and it will be contrasted with other existing theories in the area of corporate conscience and compliance. Finally, it will be discussed, how the concept of corporate conscience can help to explain corporate compliance and an enhanced holistic and plural model of corporate compliance will be presented.

**Keywords:** *Corporate compliance, corporate conscience, business ethics, social systems, corporate culture*

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